

TIROS VII RADIATION DATA CATALOG AND USERS' MANUAL

Volume 4

(October 1, 1964 - June 19, 1965)

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**TIROS VII
RADIATION DATA CATALOG
AND
USERS' MANUAL
VOLUME 4**

OCTOBER 1, 1964

JUNE 19, 1965

**by
Staff Members
of the
Laboratory for Atmospheric and Biological Sciences
Goddard Space Flight Center
National Aeronautics and Space Administration**

January 15, 1966

FOREWORD

The quantity of radiation data acquired from TIROS VII over a two year useful lifetime exceeds several times over the total quantity acquired from any of the previous TIROS radiation experiments. As a result, the TIROS VII Catalog-Manual is being published in four volumes. Each volume of this series contains time-dependent information for the specific time period covered by the Volume concerning radiometer response patterns, possible corrections for instrumental degradation, the Index of Final Meteorological Radiation Tapes, and Subpoint Track Summaries. This, the fourth volume, covers the time period October 1, 1964 to June 19, 1965, and also contains degradation corrections for channels 1, 2, 3, and 5. The first volume of this Catalog-Manual also contains general discussions about the nature of the experiment, the calibration, and the processing, coverage and documentation of the data. The third volume also contains discussions about asymmetrical degradation and the channel 1 (15 micron data) degradation corrections from launch.

Many members of the Laboratory for Atmospheric and Biological Sciences (formerly the Aeronomy and Meteorology Division) contributed to the success of the TIROS VII medium resolution radiometer experiment.

The task of obtaining and assembling the information contained in this manual into written form suitable for publication was largely accomplished by the following persons:

Mrs. Musa Pasternak, Editor

Mr. W. R. Bandeen

Mrs. Ingrid Strange

Mr. Frederick Woolfall

The efforts of these individuals are hereby acknowledged.

The preparation of the material presented in Appendix B was accomplished mainly through the effort of Mrs. Jo Anne Eller.

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I. INTRODUCTION

This volume contains time-dependent information for the period October 1, 1964 to June 19, 1965 concerning radiometer response patterns, the Index of Final Meteorological Radiation Tapes, and Subpoint Track Summaries. This volume also contains degradation correction nomograms for channels 1, 2, 3, and 5. General discussions of the experiment, the calibration of the radiometer, and the processing, coverage, and documentation of the data are found in Volume 1. General discussions of degradation are found in Volumes 1 and 3.

VI. PRE-LAUNCH AND POST-LAUNCH PERFORMANCE OF THE RADIATION EXPERIMENT

6.2 Post-Launch Behavior of the Experiment

Channels 1, 2, 3, and 5 continued to degrade, and channels 1 and 2 exhibited an increasingly greater degree of asymmetrical degradation. This degradation is seen in the quasi-global averages for floor, wall, and both sensors (Figures 70, 71, 73, 74, 83, and 84).

The degradation nomograms for channels 1, 2, 3, and 5 shown in this volume were constructed using the quasi-global averages as explained in Volume 3.

From Equation (23) for \bar{W}' in Volume 3, when both the floor and wall sensors view space, $\bar{W}^f \simeq \bar{W}^w \simeq 0$, and the space-viewed level is given by $(C^w - C^f)\bar{W}^s$. As the difference between C^w and C^f increases with days after launch, the space-viewed level rises. This happens for channels 1, 2, and 4, as shown in Figure 68.

The increase in the channel 2 space-viewed level required a raising of the channel 2 digital number representing the space-earth discriminant to 25 after January 1, 1965 from a digital number of 20 before that time. (Three or more consecutive channel 2 radiation values whose digital numbers are less than or equal to the space-earth discriminant are considered to be space-viewing. The relationship between digital number and T_{BB}

for channel 2 is shown in Figures 26 to 32. For example, at $T_c = 12^\circ\text{C}$, a digital number of 25 corresponds to measured channel 2 floor and wall temperatures of 217°K and 203°K respectively as seen in Figure 28.) Since the computer now has to consider a higher radiation level as the space-earth discriminant, it is possible for it to confuse low earth radiation values within a swath obtained by the wall sensor with the space-viewed level. Thus, one actual swath may be divided into two false swaths, with the mislocated data points in these two swaths being negatively tagged. Hence, one should be cautious in using negatively-tagged data in a computer listing.³⁹

The theory predicts that asymmetrical degradation (AOD) causes negative-going pulses to appear in the analog signal. Apparently, these negative-going pulses were too small to be detected throughout most of the history of useful TIROS VII data, but as the AOD increased, they became evident. They became approximately 4 cps by November 14, 1964 for channel 1 and 2.5 cps by May 19, 1965 for channel 2.

Negative-going pulses would not be present in the short wavelength channels even if AOD should occur because \bar{W}_s is essentially zero within the spectral response of these channels. To ascertain that AOD has definitely occurred in the short wavelength channels, it is necessary to view the same target through both sides of the radiometer. From February 15, 1965 to February 22, 1965, the spin vector of TIROS VII was torqued some 105° in such a manner as to allow the comparison of floor measurements over the Sahara Desert before the torquing with wall measurements taken after the torquing. The results for the wall and floor measurements of channels 3 and 5 vs scattering angle are shown in Figures 90a and 90b. These figures show that the wall side measurements for channel 3 are approximately 2.5 times larger than the floor side, and the channel 5 floor and wall values were approximately the same.

There is some uncertainty in the actual

amount of AOD present in channel 3 at this time because, after the initial torquing had been accomplished, T_c fell to -7°C (below 0°C , the lowest value for which a calibration run had been made in the laboratory).

Also, there is not a one-to-one correspondence between the component angles of incidence, reflection, and azimuth making up equivalent "scattering" angles. However, at least part of the 2.5 factor apparently can be attributed to AOD occurring in channel 3.

As in the previous volumes, an unfavorable satellite-sun geometry existed for several days at a time in the period covered by Volume 4, permitting the direct rays of the sun to impinge upon the sensors from the wall direction momentarily once during each satellite rotation. (See Section 6.2 of Volume 1 for a discussion of this phenomenon.) There were eleven periods during the time interval covered by this volume when such a unfavorable satellite-sun geometry occurred, viz., the periods including the orbits numbered 7120-7224 (TIROS VII days 482-489), 7631-7675 (days 516-519), 8073-8219 (days 546-556), 8464-8669 (days 572-586), 8771-8815 (days 593-596), 8959-8974 (days 606-607), 9459-9499 (days 640-642), 9586-9724 (days 648-658), 10409-10410 (day 704), 10510-10613 (days 711-718), and 10739-10784 (days 726-729).

In several orbits when there was no interference with the long wavelength channels but interference with the short wavelength channels only, the data were reduced. Data users should note that these "sun spikes" in the short wavelength channels produce erroneous values.

6.2.1 Channel 1 The corrections to channel 1 data were constructed using the \bar{W}_{ave}^i values from the quasi-global average curves in Figures 70 and 83 by the method described in Volume 3. These corrections are given in the two nomograms in Figures 77a and b of this volume. The cut-off date for the usefulness of channel 1 data was determined to be November 14, 1964 at which time negative-going pulses reaching a magnitude of 4 cps were observed.

6.2.2 Channel 2 The corrections to channel 2 data were obtained using the \bar{W}_{ave}^i values from the quasi-global average curves in Figures 71 and 84 by the method described in Volume 3. These corrections are shown in the nomograms in Figures 78a and b. As in Volume 3, Figure 89 gives the difference value $M = T_{SFC} - T'_{BB(SFC)}$, another indication of instrumental degradation.

6.2.3 Channel 4 The history of channel 4 data and degradation nomograms from launch until Day 249 are given in Volumes 1 and 2. Because of the subsequent erratic behavior and severe degradation of channel 4 data, their use after Day 249 is not recommended, and, hence, no further correction nomograms are given.

6.2.4 Channel 3 The correction nomogram in Figure 80 was constructed using the method described in Section 6.2.4, Volume 1, and is used in the same way as in Volume 1. The values of A^i used for the correction nomogram were obtained from the curves drawn through the quasi-global averages of Figure 73.

Since channel 3 degrades to approximately one-half of its original level by December 25, 1964, this was chosen as the cut-off date for the channel 3 correction nomogram.

6.2.5 Channel 5 The absolute magnitude of channel 5 values of Δf in Figure 68 decreased to an average of -0.5 cps. Thus the correction nomogram in Figure 81 was constructed using the new Δf value and the method described in Section 6.2.5, Volume 1. It is used in the same way as in Volume 1.

6.3 Estimate of the Accuracy of the Data

In all cases the estimates of accuracy given below apply to the midrange of target intensities. The accuracy of the thermal channels suffers additionally at very low target temperatures.

6.3.1 Channel 1 The estimated short-term relative accuracy of T_{BB} measurements from a given side (floor or wall) is $\pm 2^\circ\text{K}$, and the estimated absolute accuracy increases linearly from $\pm 12^\circ\text{K}$ on October 1, 1964 to $\pm 13^\circ\text{K}$ on November 14, 1965 after

applying corrections from Figure 77.

6.3.2 Channel 2 The estimated short-term relative accuracy of T_{RB} measurements from a given side is $\pm 2^\circ K$, and the estimated absolute accuracy increases linearly from $\pm 10^\circ K$ on October 1, 1964 to $\pm 15^\circ K$ on June 19, 1965.

6.3.3 Channel 4 No estimates for the period covered by Volume 4 are given.

6.3.4 Channel 3 and Channel 5 The estimates of the relative and absolute accuracies of channel 3 and 5 data have not changed from Volume 1.

6.4 Comments on Significant Engineering Aspects of the Experiment

The spin vector of TIROS VII was torqued about 105° during the period February 15-22, 1965, to permit the comparison of floor with wall sensor data over the sun-lit Sahara (See Section 6.2). The torquing maneuver changed the astronomical declination of the spin vector from $+23^\circ$ on February 15, 1965 to -65° on February 23, 1965. Before the torquing maneuver, the floor and wall measurements were predominately taken at day and night local time respectively. The torquing increased the minimum satellite nadir angle (angle between the spin axis and the orbital plane) from 17° to 56° , as listed in Appendix A. For an orbit having a 56° minimum nadir angle, most of the satellite data are in the alternating mode (Figure B2) and each of the floor and wall directions acquires both daytime and nighttime data on a more nearly equal basis than it usually does. Thus, for about a week after torquing (February 23 - March 1, 1965) the wall sensor viewed predominately the daytime Sahara desert in place of the floor sensor. The interchange of floor and wall values with time obviously influenced the magnitude of the average regional uncorrected measurements. As listed in Appendix A, the mini-

mum nadir angle decreased from 56° to 22° by March 7, and the predominant day-floor, night-wall pattern in the measurements returned once again.

CONCLUSIONS

The major limitation of the TIROS VII medium resolution radiometer experiment is the uncertainty in the absolute values of the measurements, resulting from the degradation of the radiometer response, and, also, from electronic degradation which, for the first time, was conclusively detected in TIROS VII. The degradation corrections given in Section VI can serve as a guide for interpreting the data in terms of absolute values. However, it must be emphasized that these corrections are only our best estimates, based upon certain simplifying assumptions, of the effects of a complicated degradation mechanism which we do not yet fully understand, and that the measurements thus corrected may still contain appreciable uncertainties.

Because of the extended lifetime of the radiometer, the potential of the TIROS VII radiometric data for climatological studies is significantly greater than it was for previous TIROS satellites. In utilizing the measurements over extended periods, however, channel 2 and 5 data should be used in lieu of channel 4 and 3 data, respectively, wherever possible because of the superior stability characteristics of the former two channels.

For studies involving relative measurements over a short period of time, data from channels 4, 1, and 3 are considered to be valid for time periods from launch to February 23, 1964, November 14, 1964, and December 25, 1964, respectively. For such studies, data from channels 2 and 5 are considered to be valid throughout the entire two year period covered by Volumes 1 through 4.

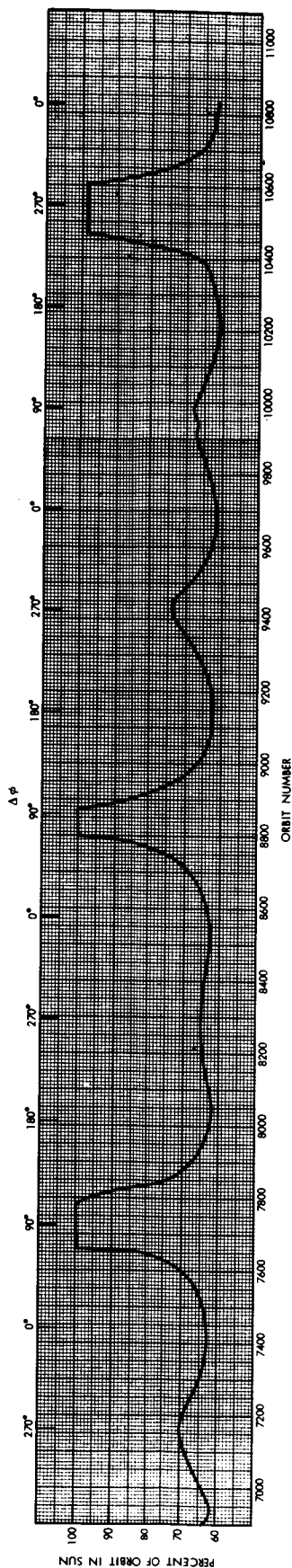


Figure 16a—Percent of the orbital period which the satellite spends in sunlight versus orbit number. Also shown on the upper abscissa is $\Delta\phi$, the right ascension of the sun minus the right ascension of the orbital ascending node.

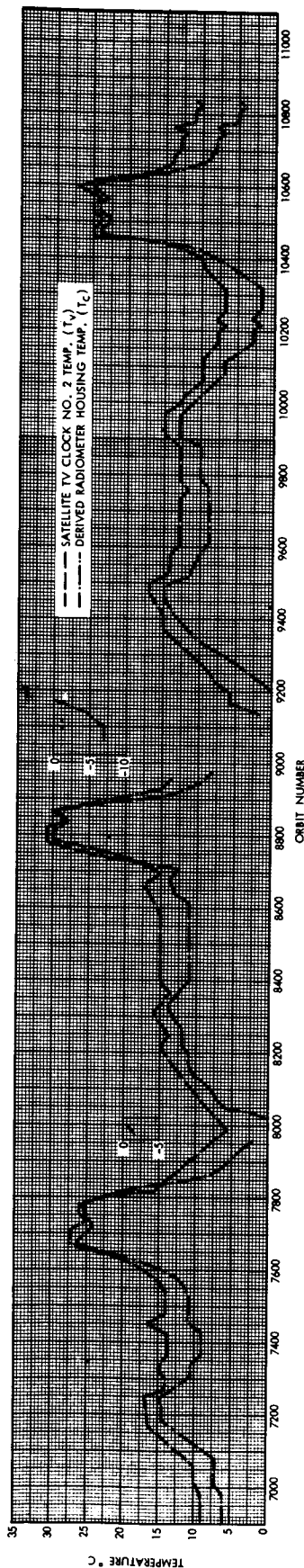


Figure 16b—Television clock number 2 temperature (T_v), and derived radiometer housing temperature (T_c) versus orbit number. Telemetry of the "housekeeping information" for the radiometer ceased at orbit 1276, after which T_c was derived from T_v . In orbits 7960 to 8000 and 9060 to 9170, T_c and sometimes T_v dip below 0°C . A separate temperature scale drawn beside the region of the dip is then used for the values below 0°C .

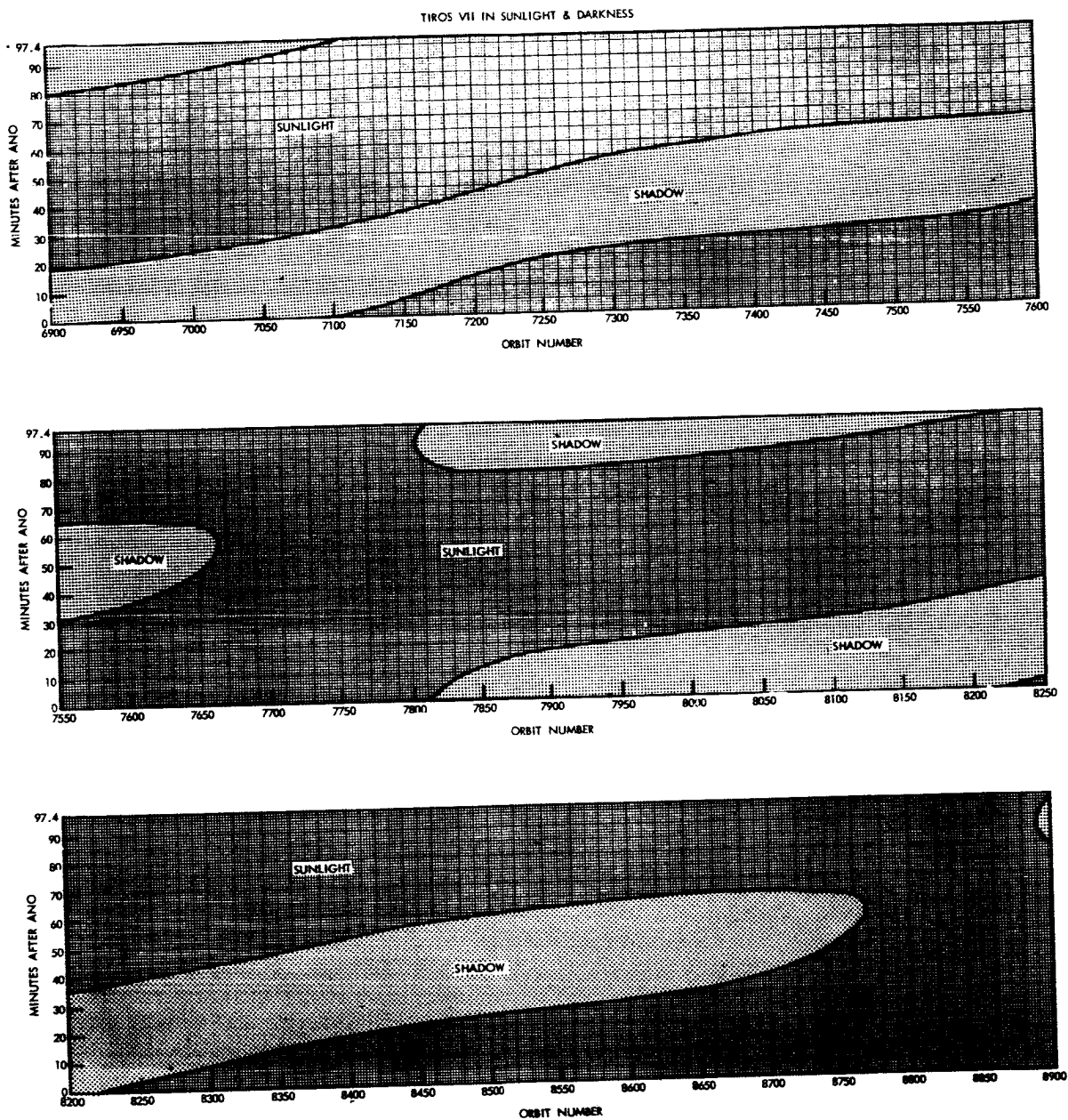


Figure 18—Portions of the 97.4 minute orbital period when the satellite is in sunlight and in the Earth's shadow, expressed in minutes after the ascending node, versus orbit number. Figure 18 is continued on next page.

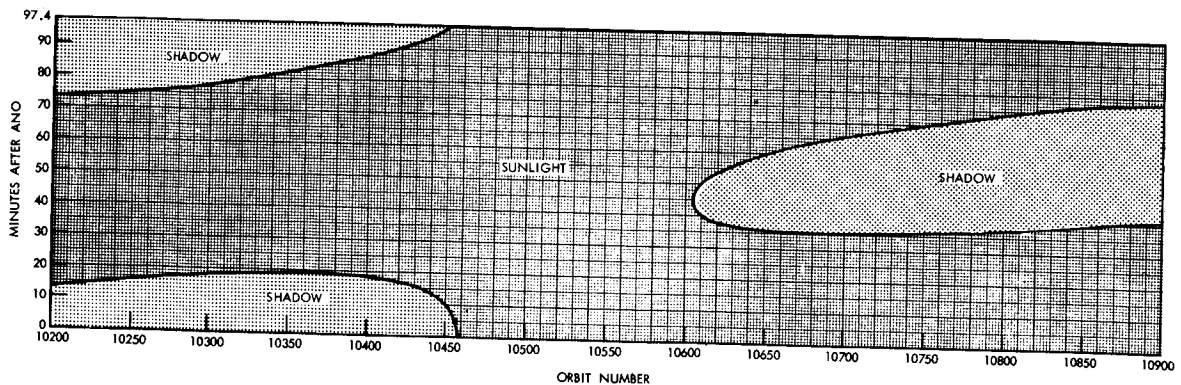
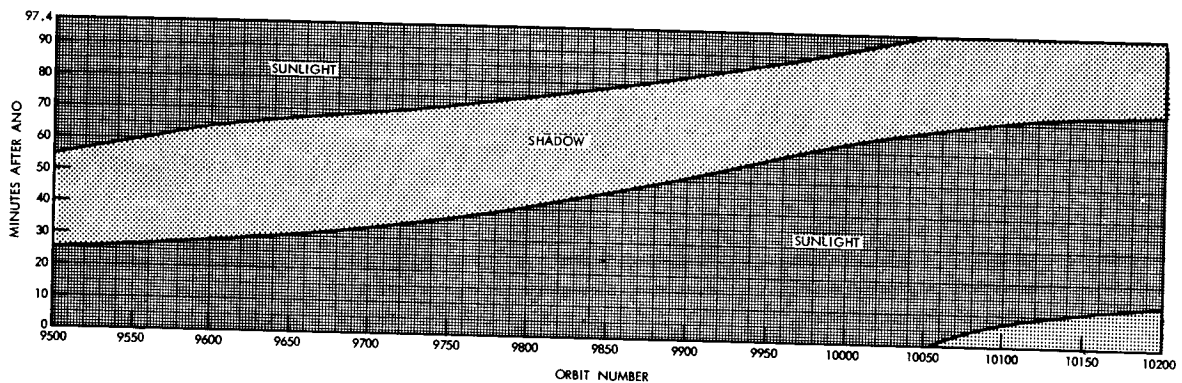
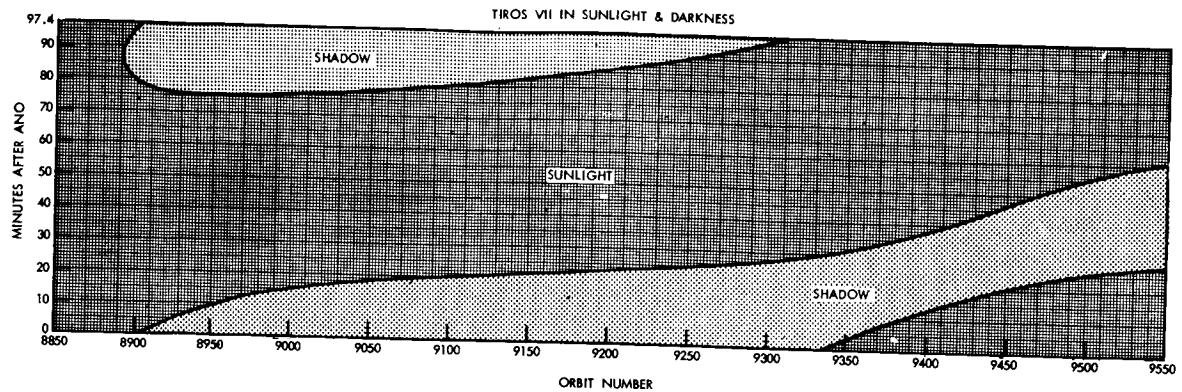
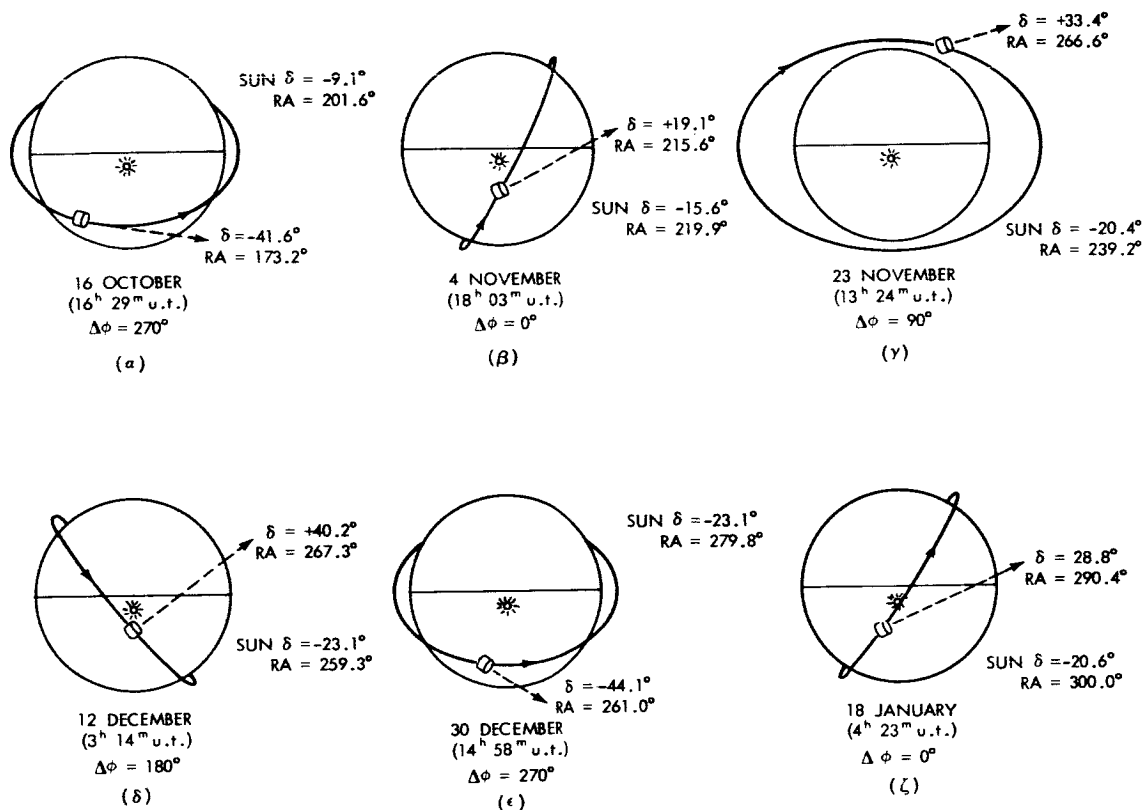


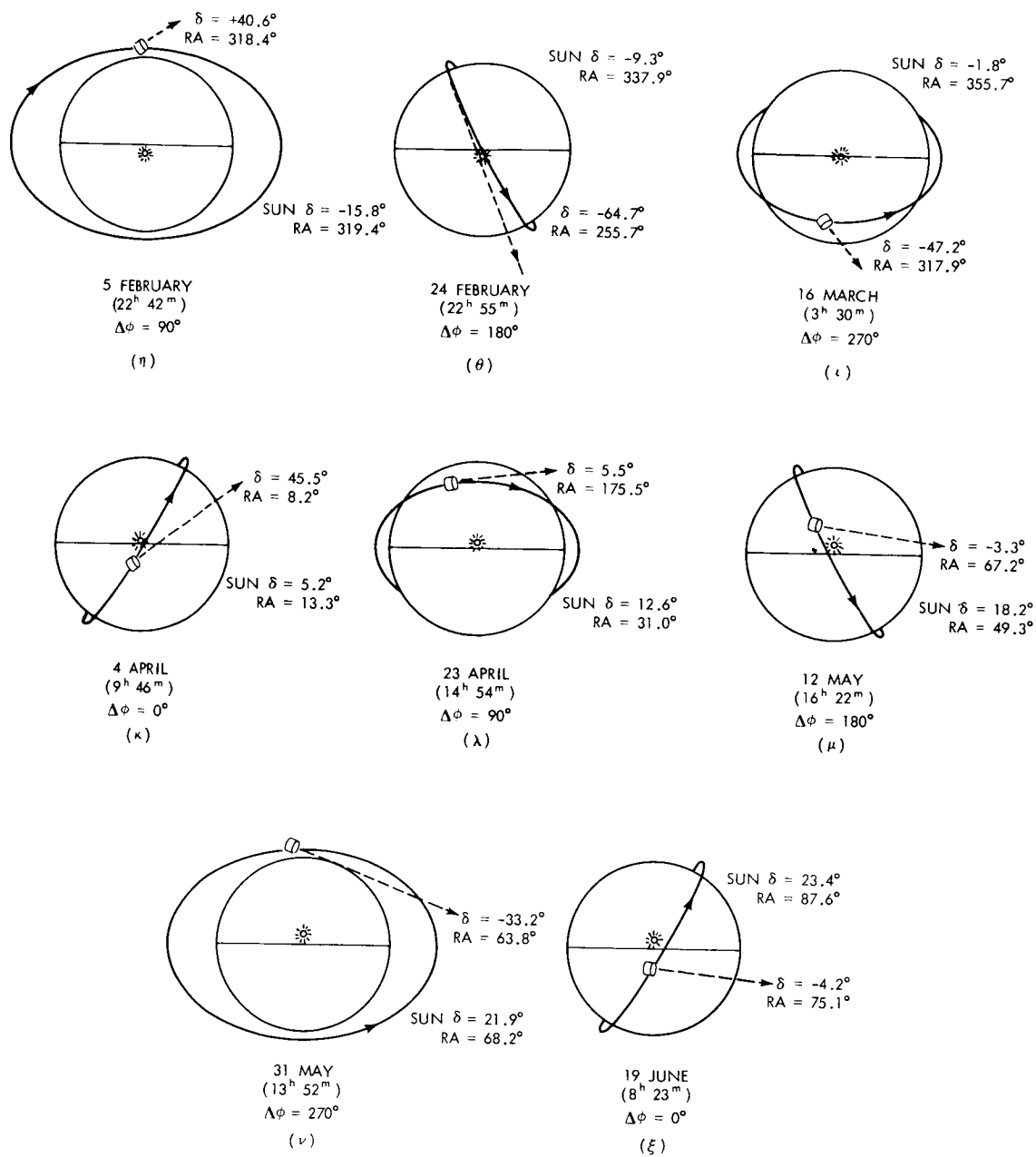
Figure 18—Portions of the 97.4 minute orbital period when the satellite is in sunlight and in the Earth's shadow, expressed in minutes after the ascending node, versus orbit number. Figure 18 is continued from preceeding page.



ALL CALENDAR DATES ARE IN 1964 AND 1965

Figure 66—(α, β, γ, δ, ε, ζ)

Heliocentric views of the Earth and the precessing TIROS VII orbital plane. The celestial coordinates of the sun and the satellite spin vector are shown for each selected day. The time is given to the nearest minute and corresponds to the given value of $\Delta\phi$.



ALL CALENDAR DATES ARE IN 1965

Figure 66—(η, θ, ι, κ, λ, μ, ν, and ξ)

Heliocentric views of the Earth and the precessing TIROS VII orbital plane. The celestial coordinates of the sun and the satellite spin vector are shown for each selected day. The time is given to the nearest minute and corresponds to the given value of Δφ.

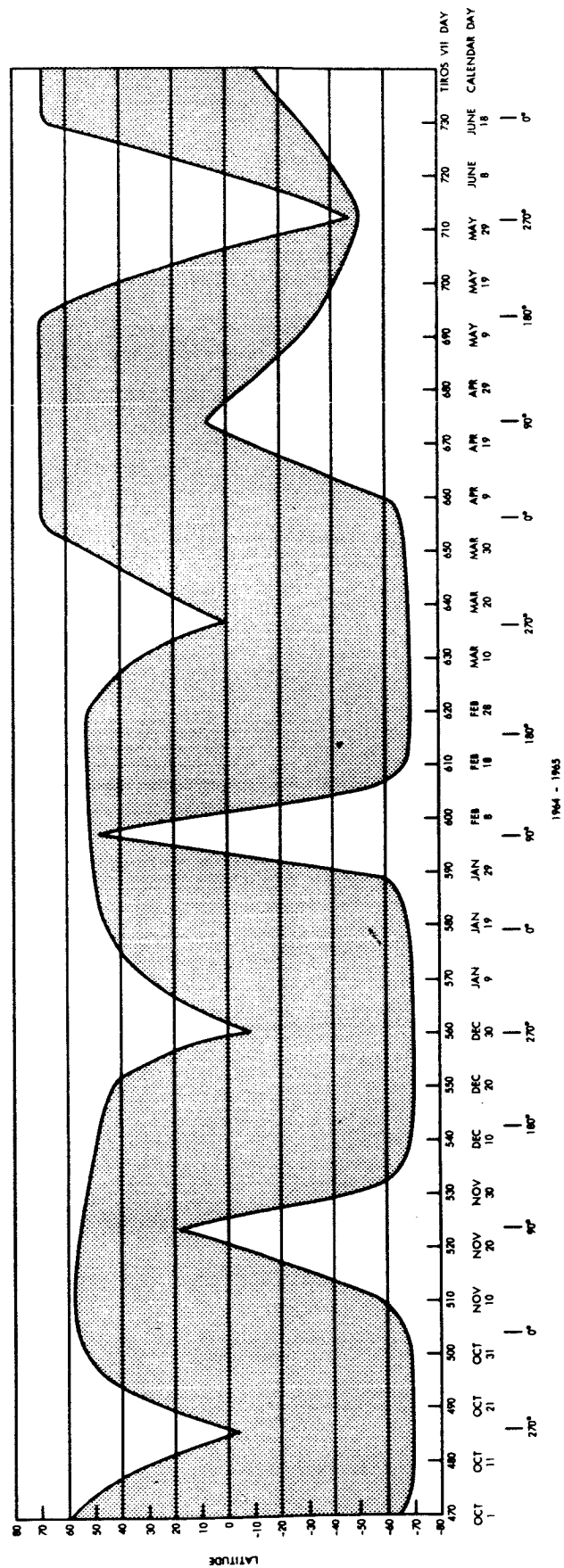


Figure 67—Solar illuminated latitudes for TIROS VII.

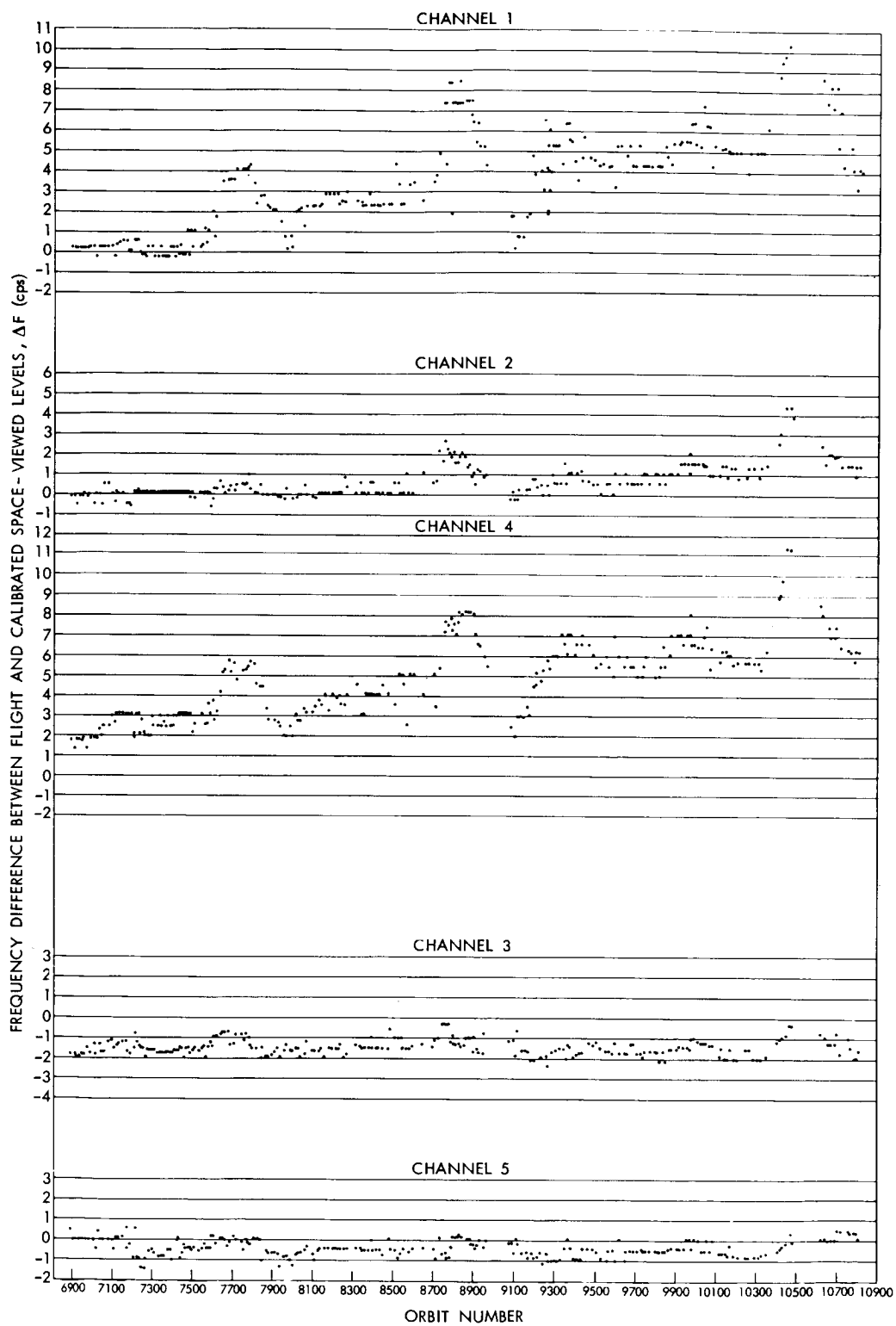
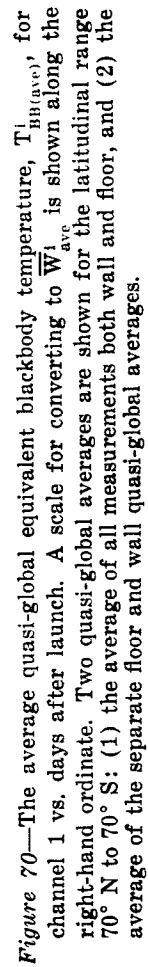


Figure 68—Frequency difference between flight and calibrated space-viewed levels vs. orbit number for channels 1 to 5.



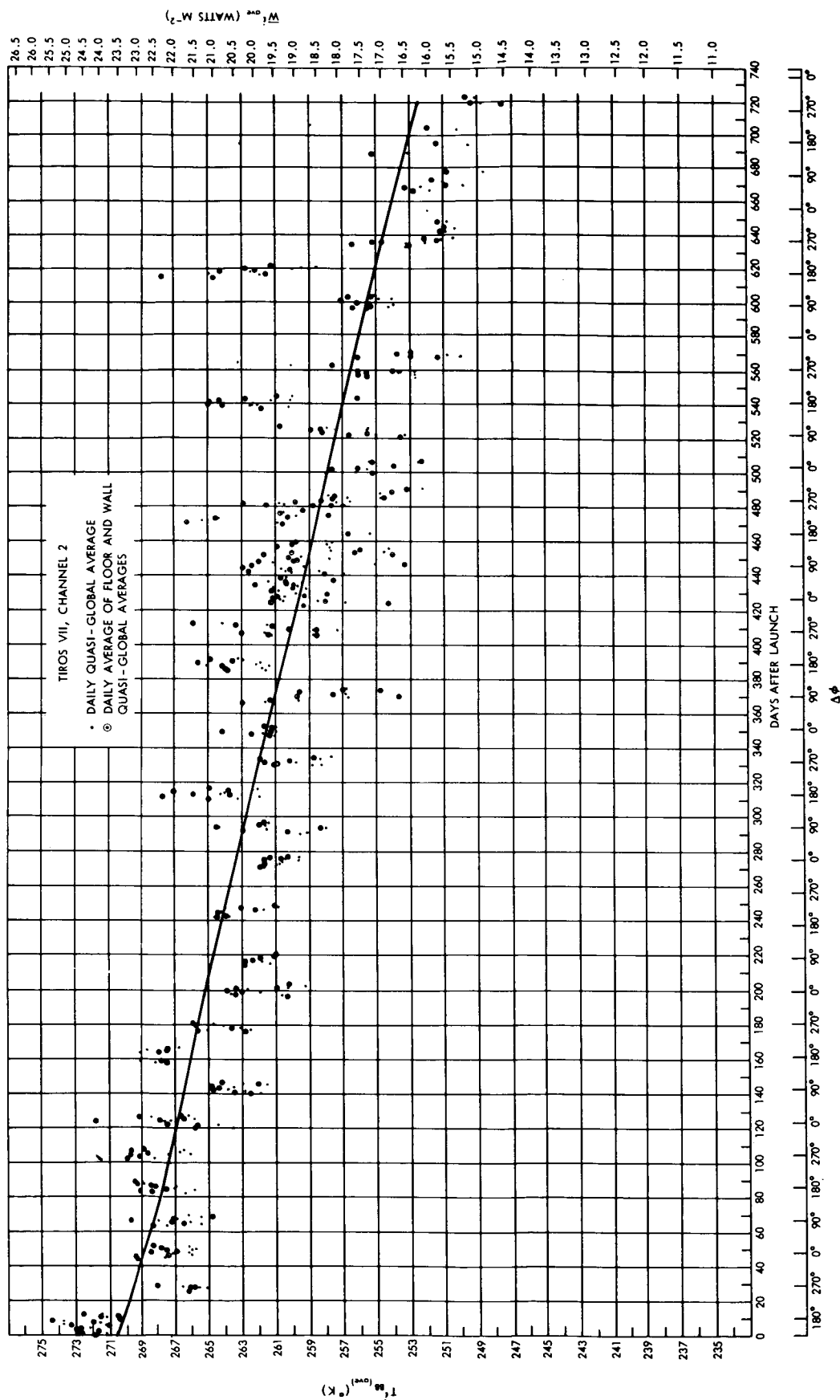


Figure 71—The average quasi-global equivalent blackbody temperature, $T_{\text{BB(ave)}}$, for channel 2 vs. days after launch. A scale for converting to \bar{W}_i is shown along the right-hand ordinate. Two quasi-global averages are shown for the latitudinal range 70° N to 70° S: (1) the average of all measurements, both wall and floor, and (2) the average of the separate floor and wall quasi-global averages.

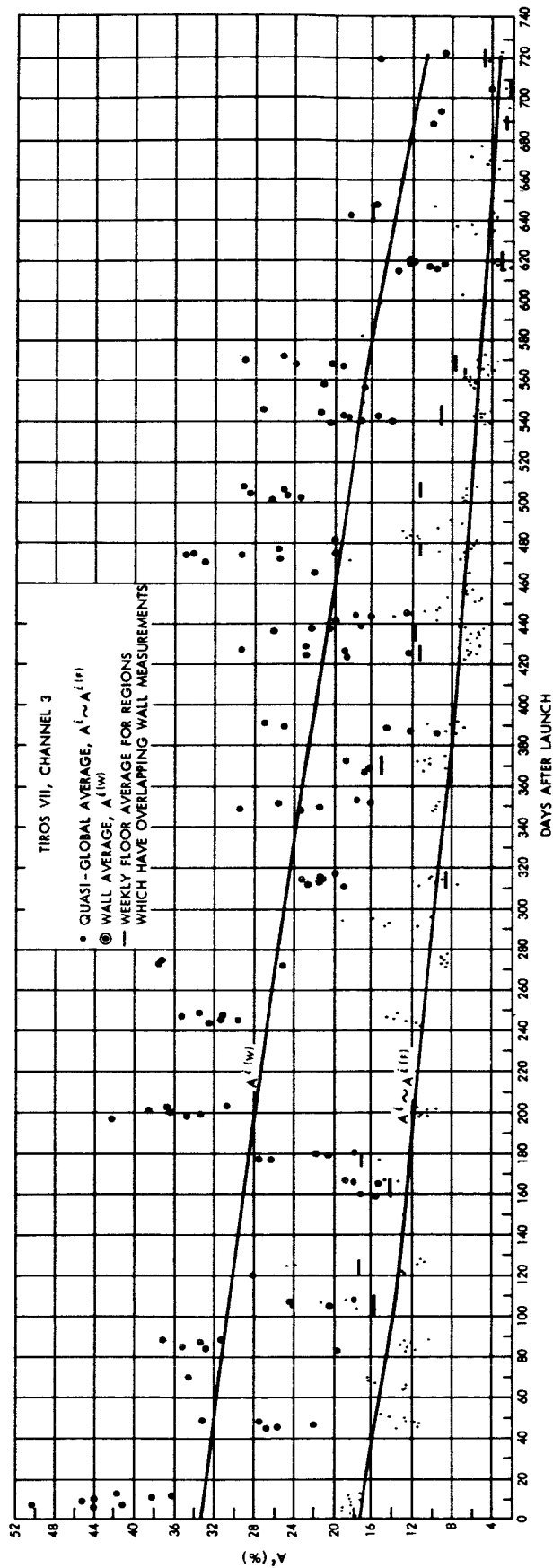


Figure 73—The average quasi-global albedo A^1 and $A^{1(w)}$, in the latitudinal range 70° N to 70° S for channel 3 vs. days after launch. Since there are few wall measurements, the quasi-global averages of $A^{1(F)}$ and A^1 are essentially the same. The bars represent the weekly averages of floor measurements for regions which have overlapping wall measurements.

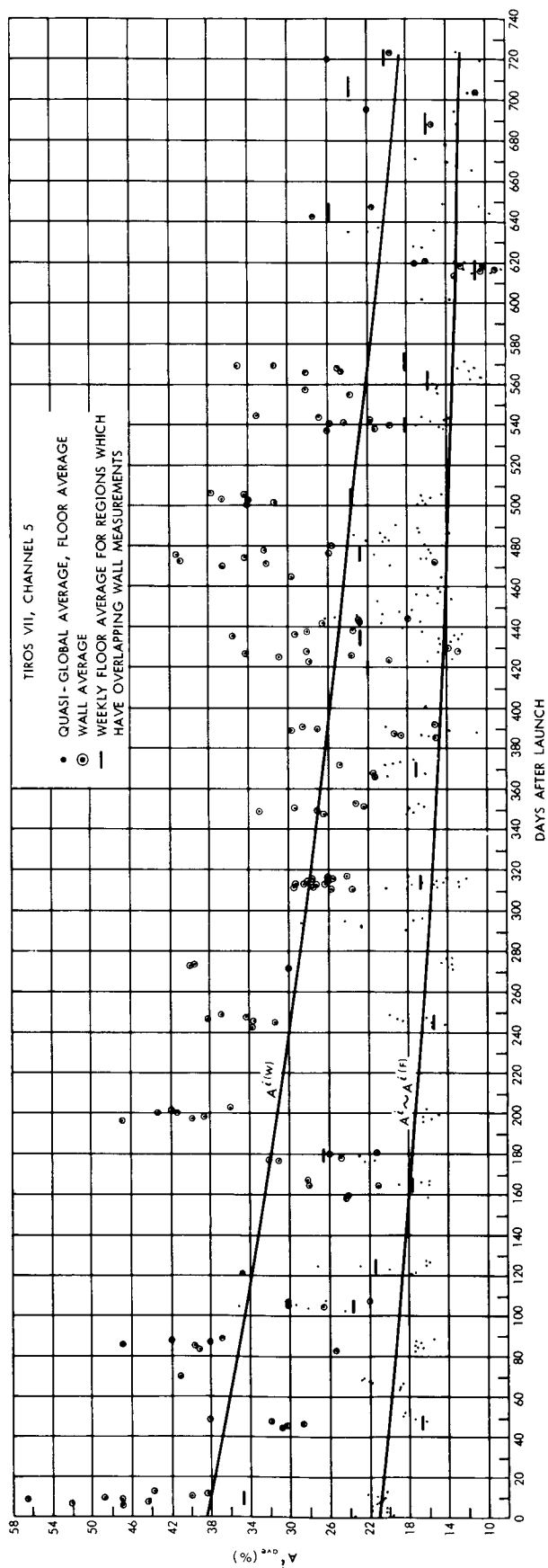


Figure 74.—The average quasi-global albedo A^i and $A^{i(W)}$, in the latitudinal range of 70° N to 70° S for channel 5 vs. days after launch. Since there are few wall measurements the quasi-global averages of $A^{i(F)}$ and A^i are essentially the same. The bars represent the weekly averages of floor measurements for regions which have overlapping wall measurements.

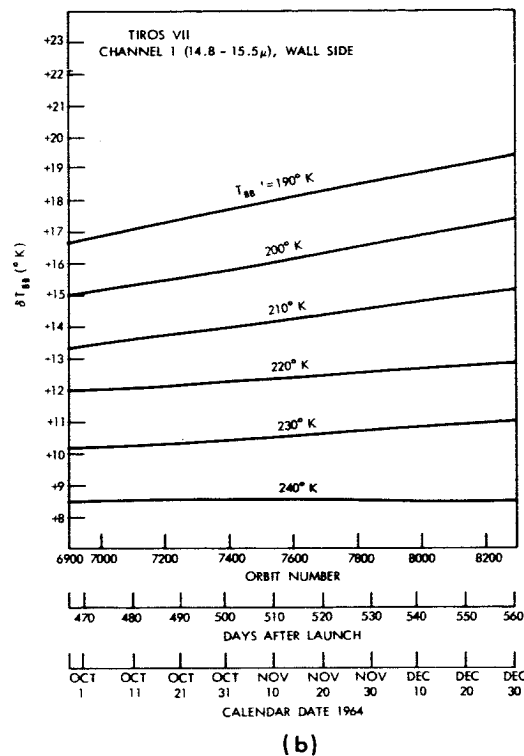
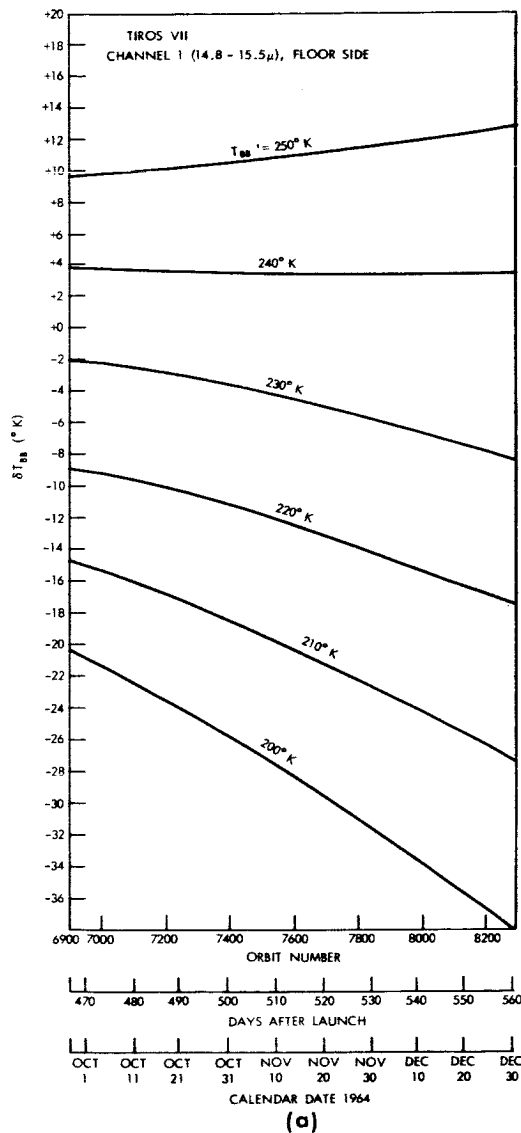


Figure 77a—Temperature corrections δT_{BB} vs. orbit number, channel 1, floor side. An equivalent blackbody temperature measurement, T'_{BB} , should be corrected by adding the δT_{BB} value corresponding to the appropriate orbit number. (δT_{BB} includes both symmetric and asymmetric components.)

Figure 77b—Temperature corrections δT_{BB} vs. orbit number, channel 1, wall side. An equivalent blackbody temperature measurement, T'_{BB} , should be corrected by adding the δT_{BB} value corresponding to the appropriate orbit number. (δT_{BB} includes both symmetric and asymmetric components.)

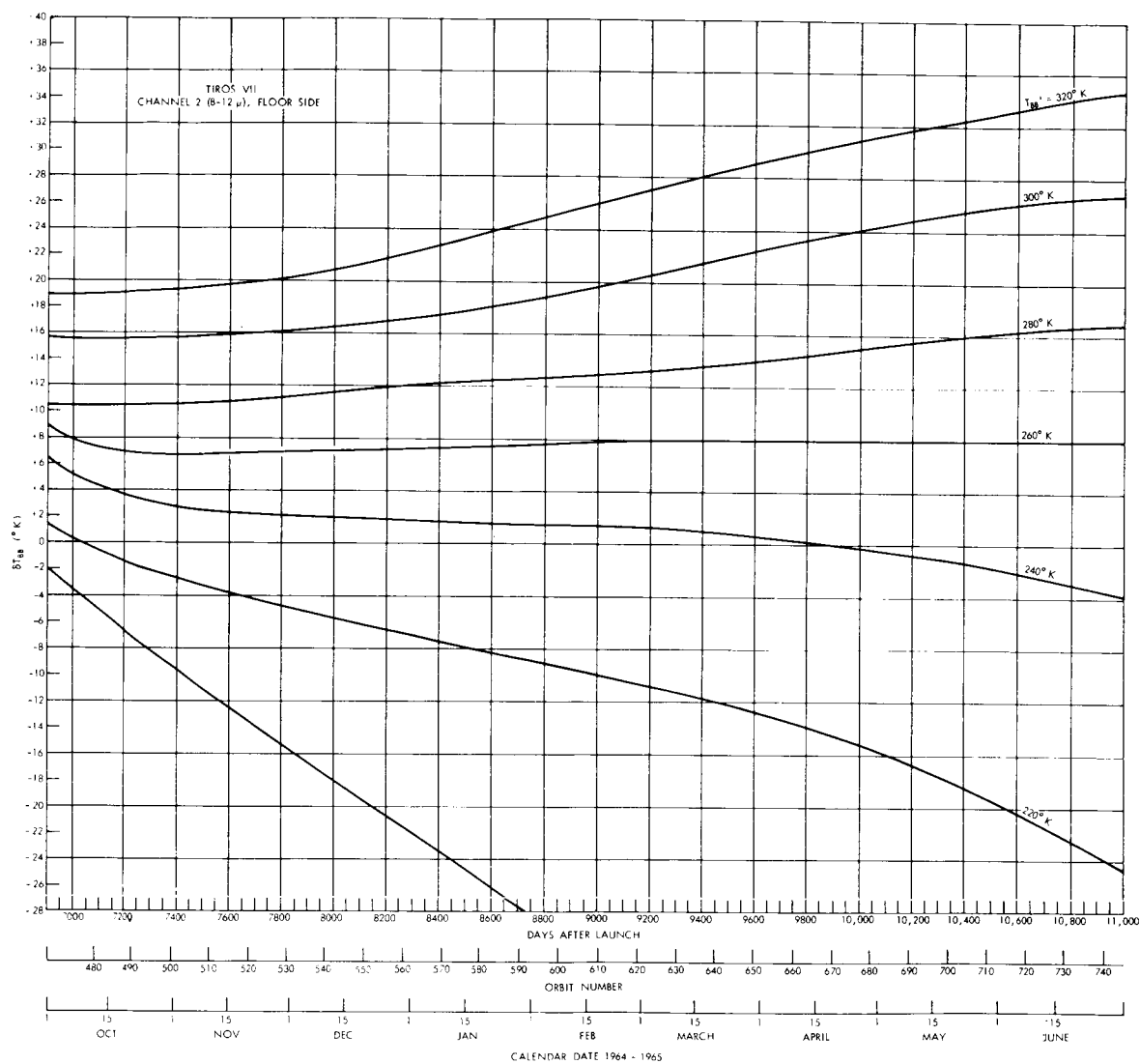


Figure 78a—Temperature corrections δT_{BB} vs. orbit number, channel 2, floor side. An equivalent blackbody temperature measurement T'_{BB} should be corrected by adding the δT_{BB} value corresponding to the appropriate orbit number. (δT_{BB} includes both symmetric and asymmetric components.)

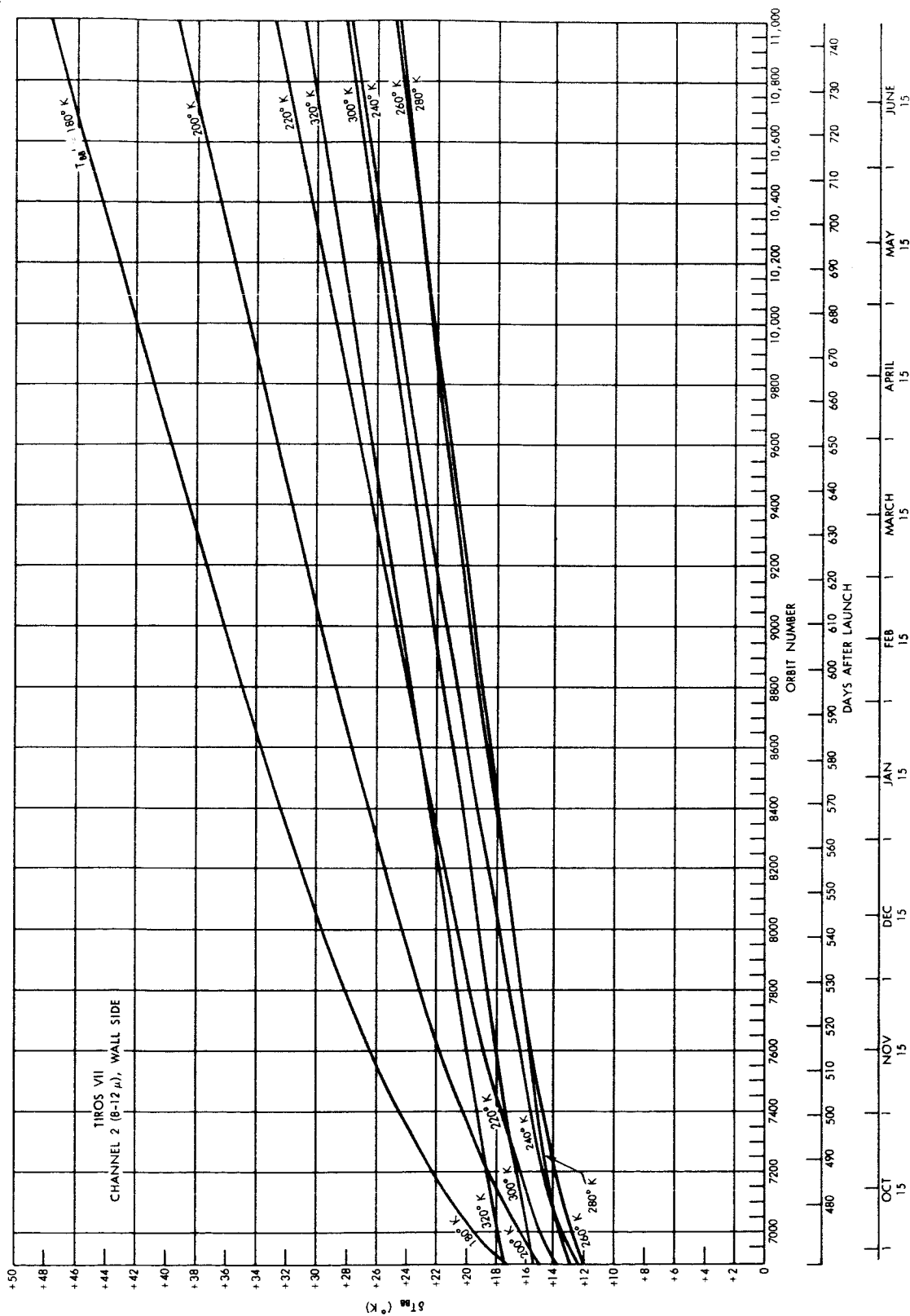


Figure 78b—Temperature corrections δT_{HH} vs. orbit number, channel 2, wall side. An equivalent blackbody temperature measurement, T'_{HH} , should be corrected by adding the δT_{HH} value corresponding to the appropriate orbit number. (δT_{HH} contains both symmetric and asymmetric components.)

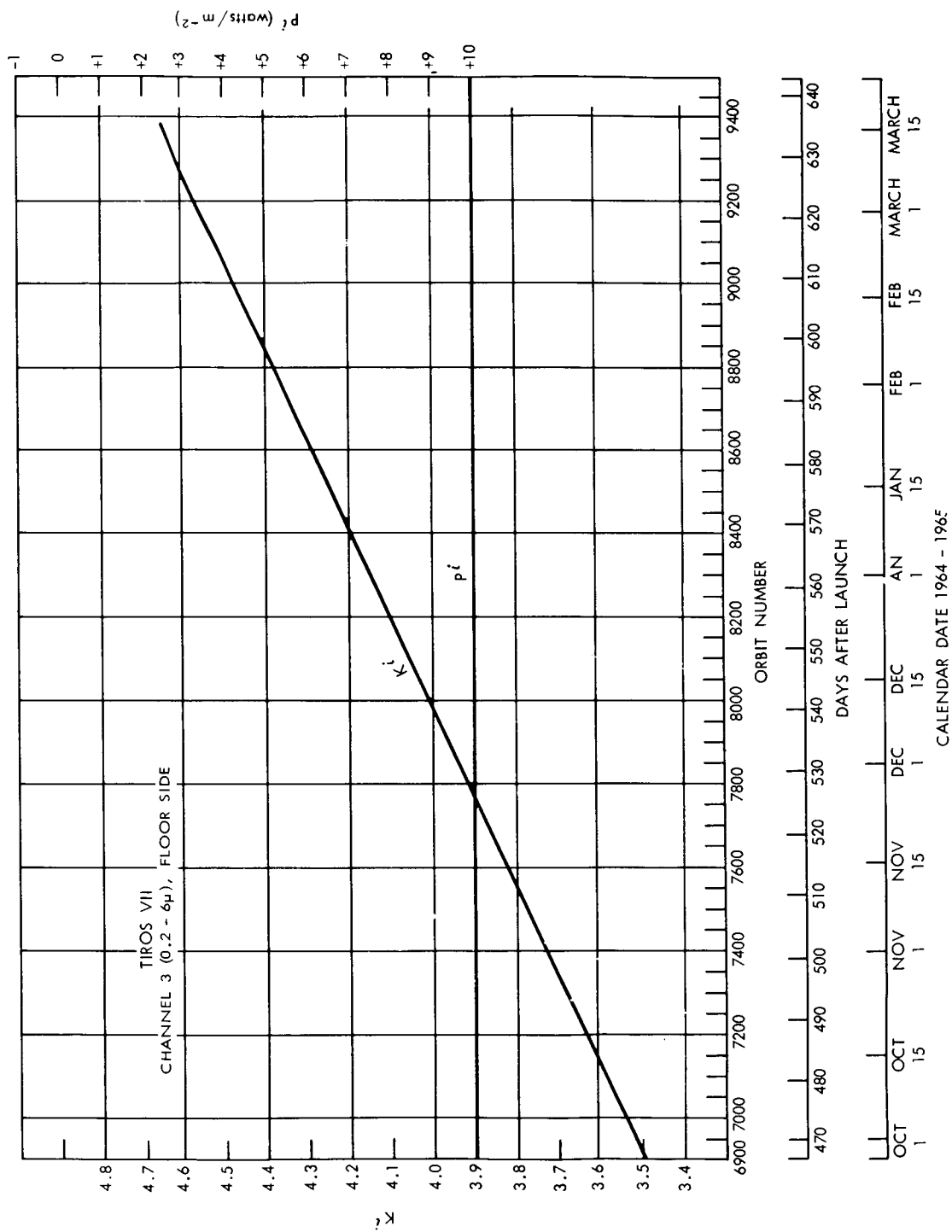


Figure 80—Normalizing parameters κ_i and ρ_i for channel 3. A measurement \bar{W} should be corrected to yield \bar{W} by means of the equation $\bar{W} = \kappa_i (\bar{W}' + \rho_i)$.

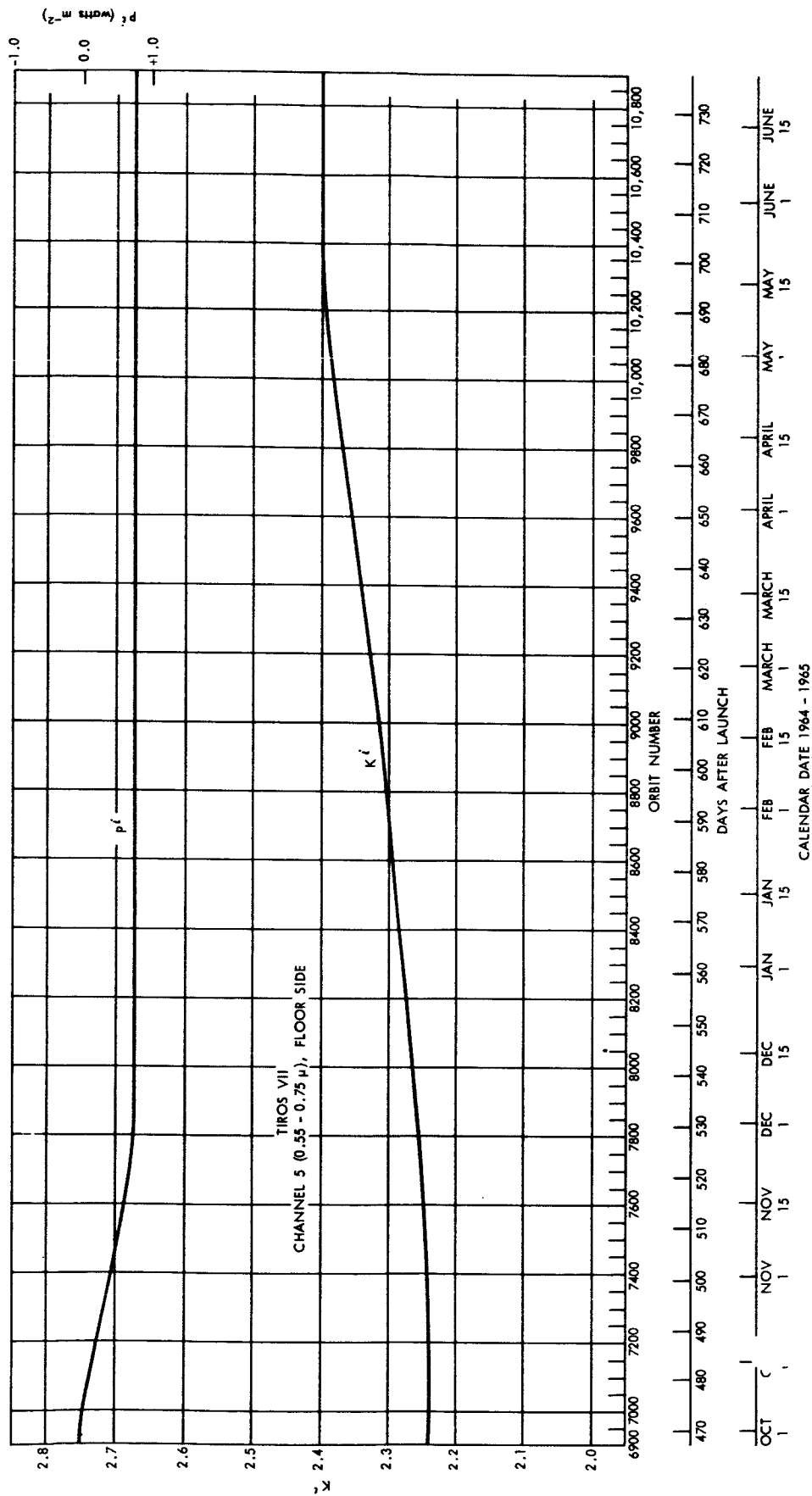


Figure 81—Normalizing parameters κ^1 and ρ^1 for channel 5. A measurement \bar{W} should be corrected to yield W by means of the equation $W = \kappa^1(W' + \rho^1)$.

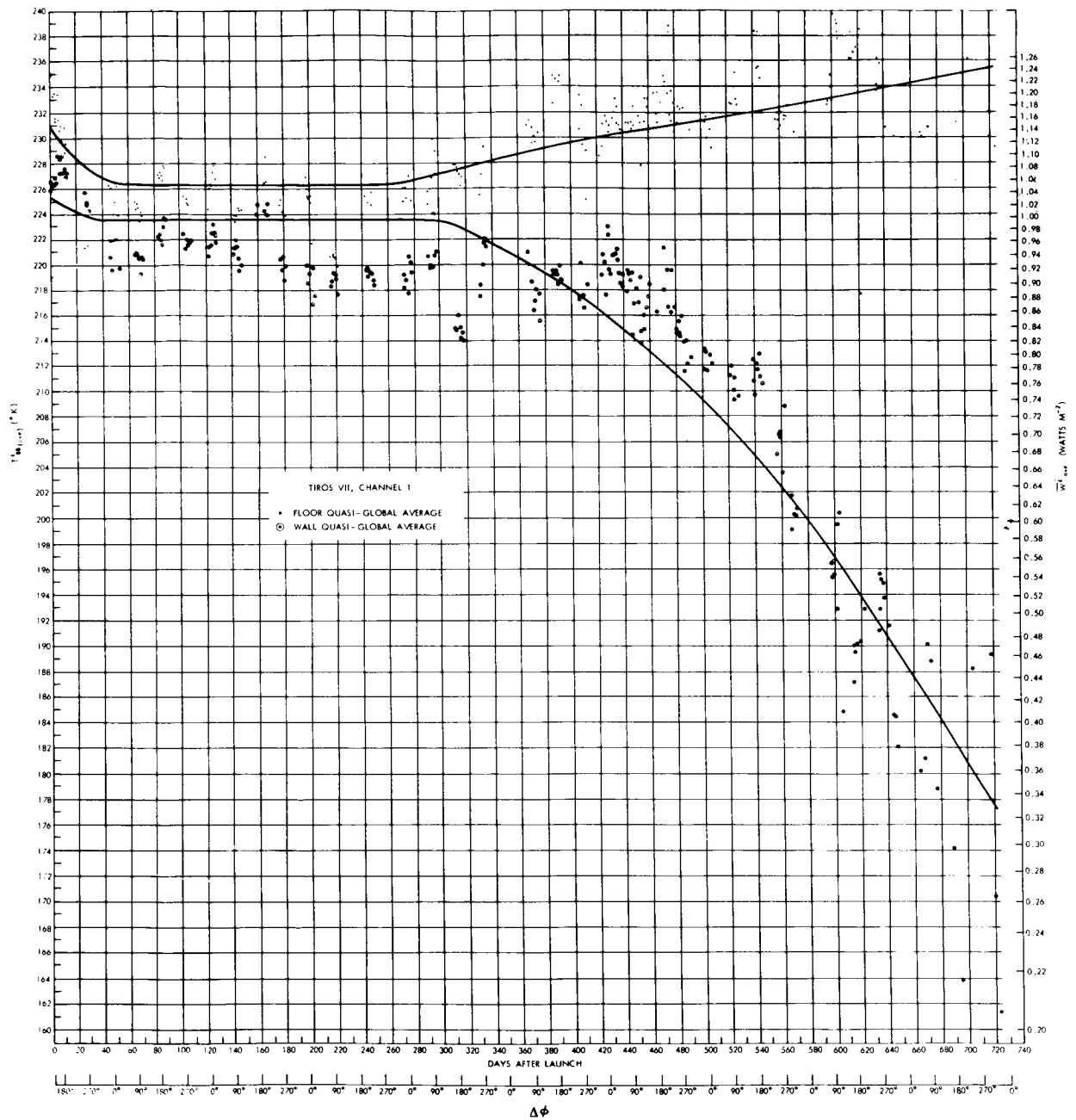


Figure 83—The average floor and wall quasi-global T_{BB}^i and \bar{W}^i values for channel 1 in latitude range 70° N to 70° S vs. days after launch.

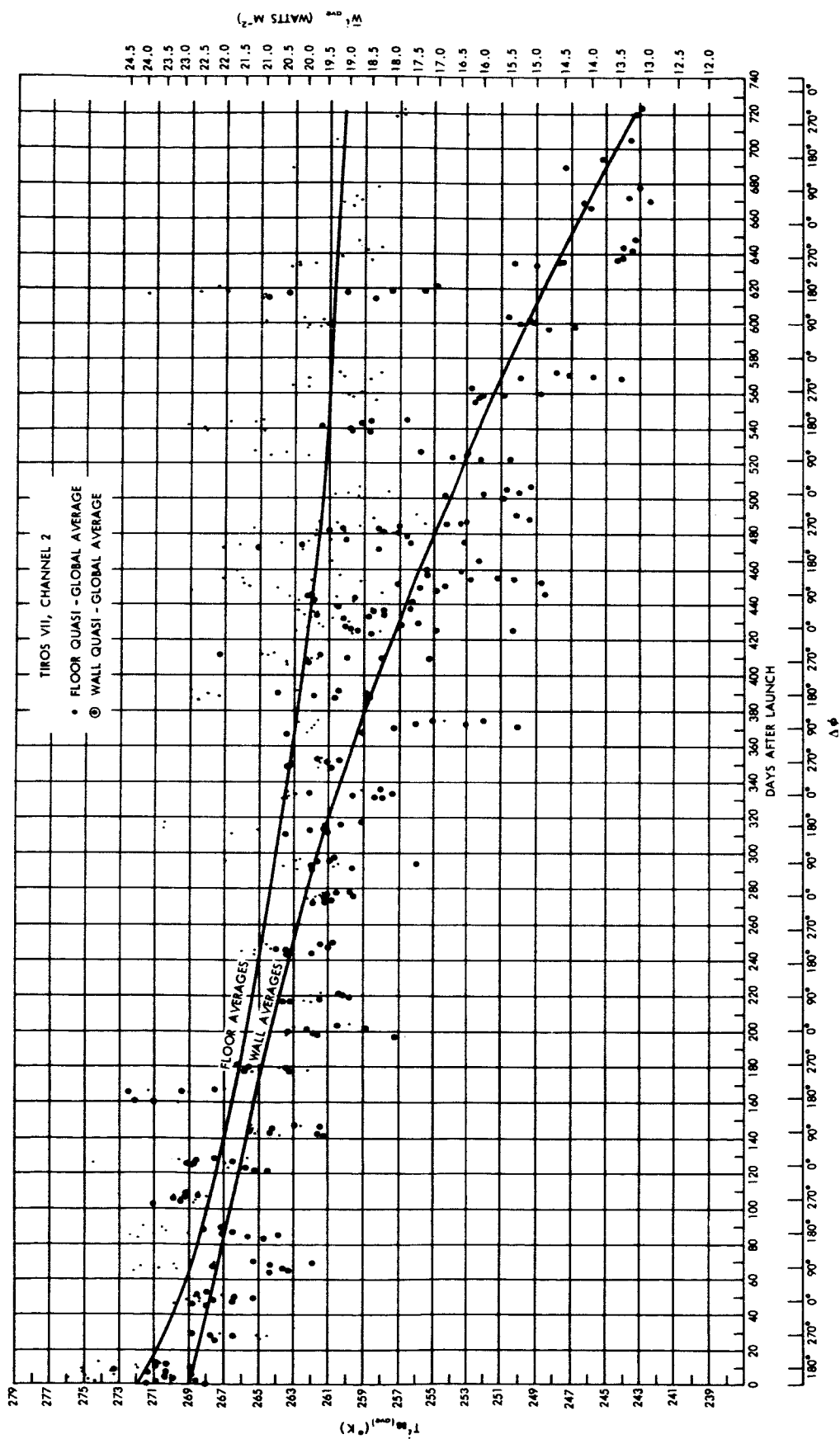


Figure 84—The average floor and wall quasi-global T^1_{88} and W^1_{88} values for channel 2 in latitude range 70° N to 70° S vs. days after launch.

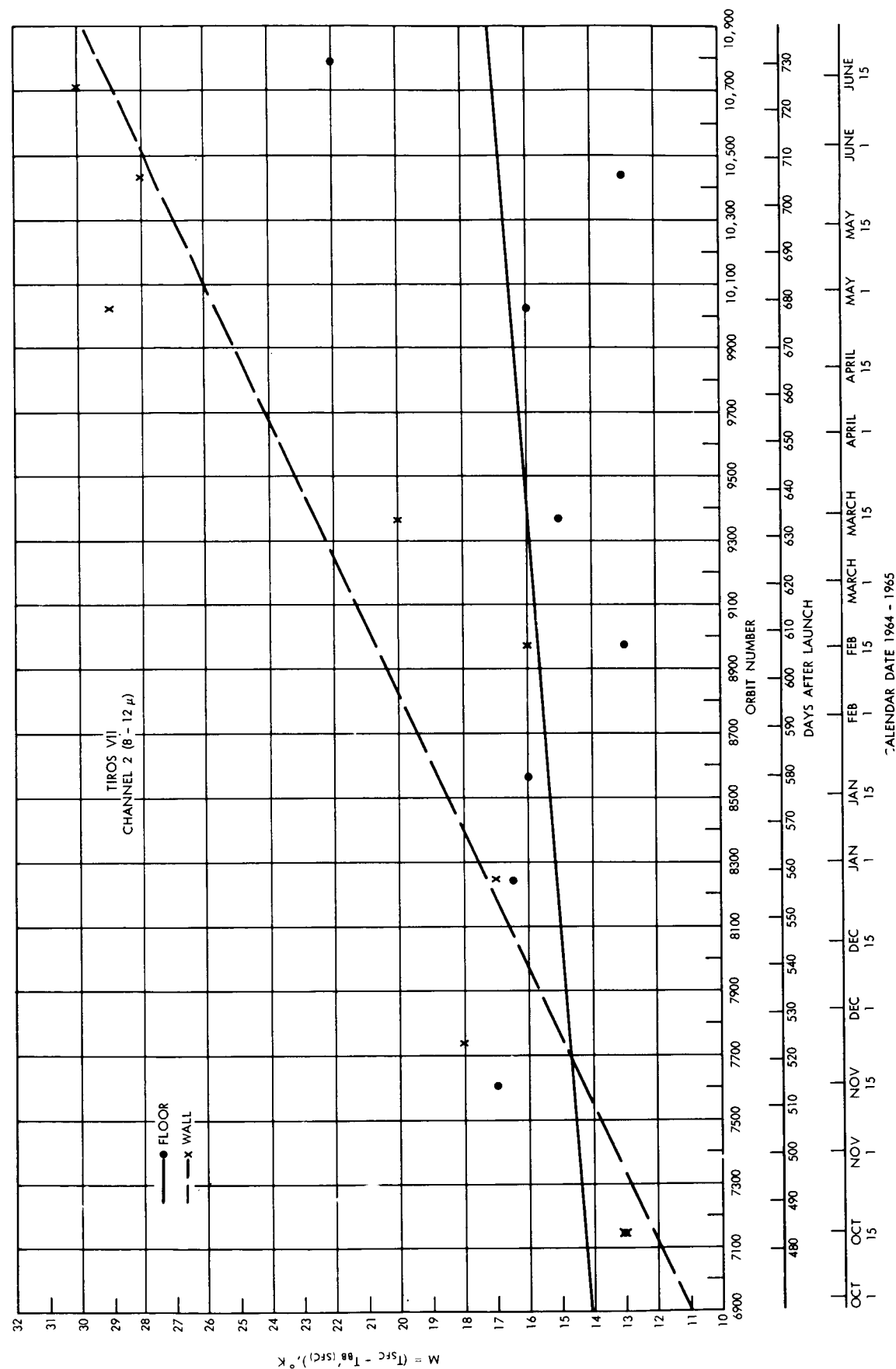


Figure 89—Deviations of channel 2 floor and wall measurements of surface temperatures (adjusted for atmospheric absorption), $T_{atm}(sfc)$, from assumed surface temperatures from an oceanographic atlas, T_{sfc} , vs. orbit number. Measurements were made over clear sky equatorial oceanic regions. Values of M tend to corroborate Figures 78a and b.

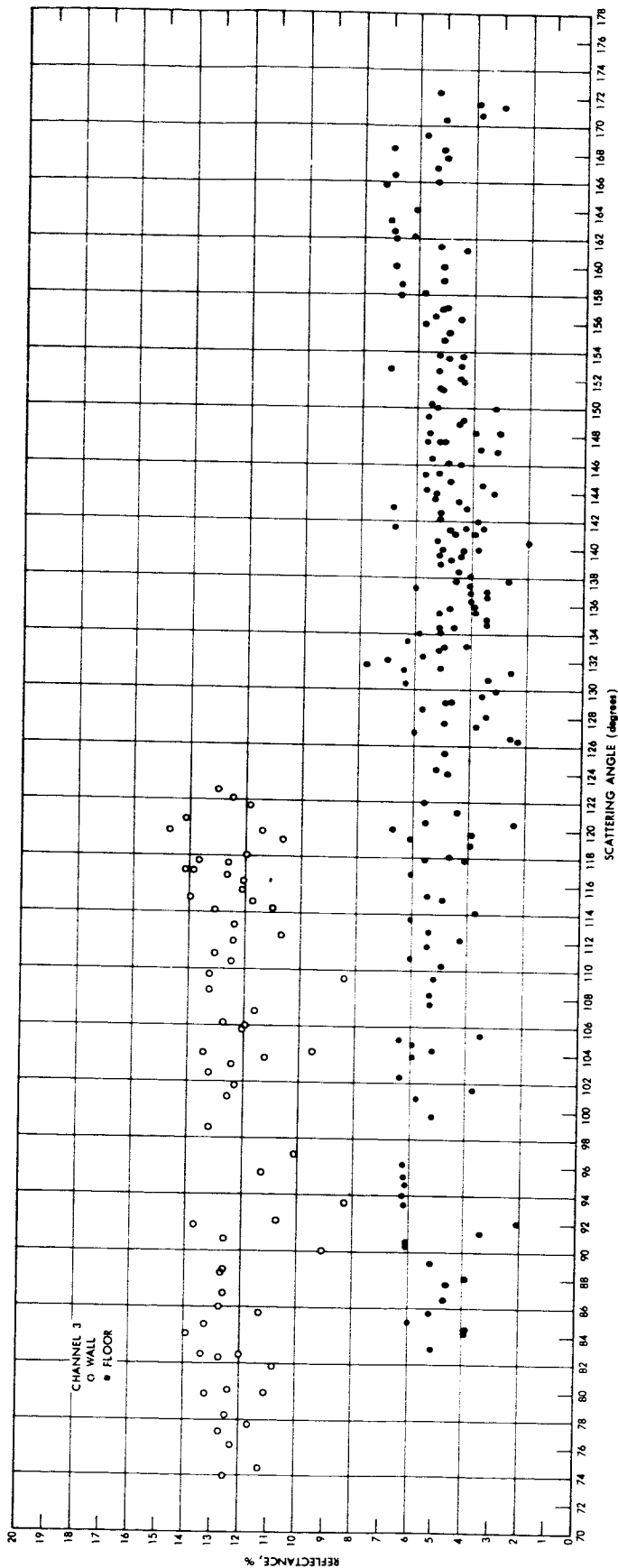


Figure 90a—Channel 3 floor and wall Sahara measurements vs. scattering angle ϕ (i.e., the angle between a ray of scattered radiation and the direction in which the incident radiation was advancing). The floor measurements are for February 10-13, 1965. During February 15-22, 1965, the satellite experienced a 105° torquing maneuver, resulting in a geometry which made possible daytime wall measurements over the Sahara Desert. The wall measurements are for February 23-28, 1965.

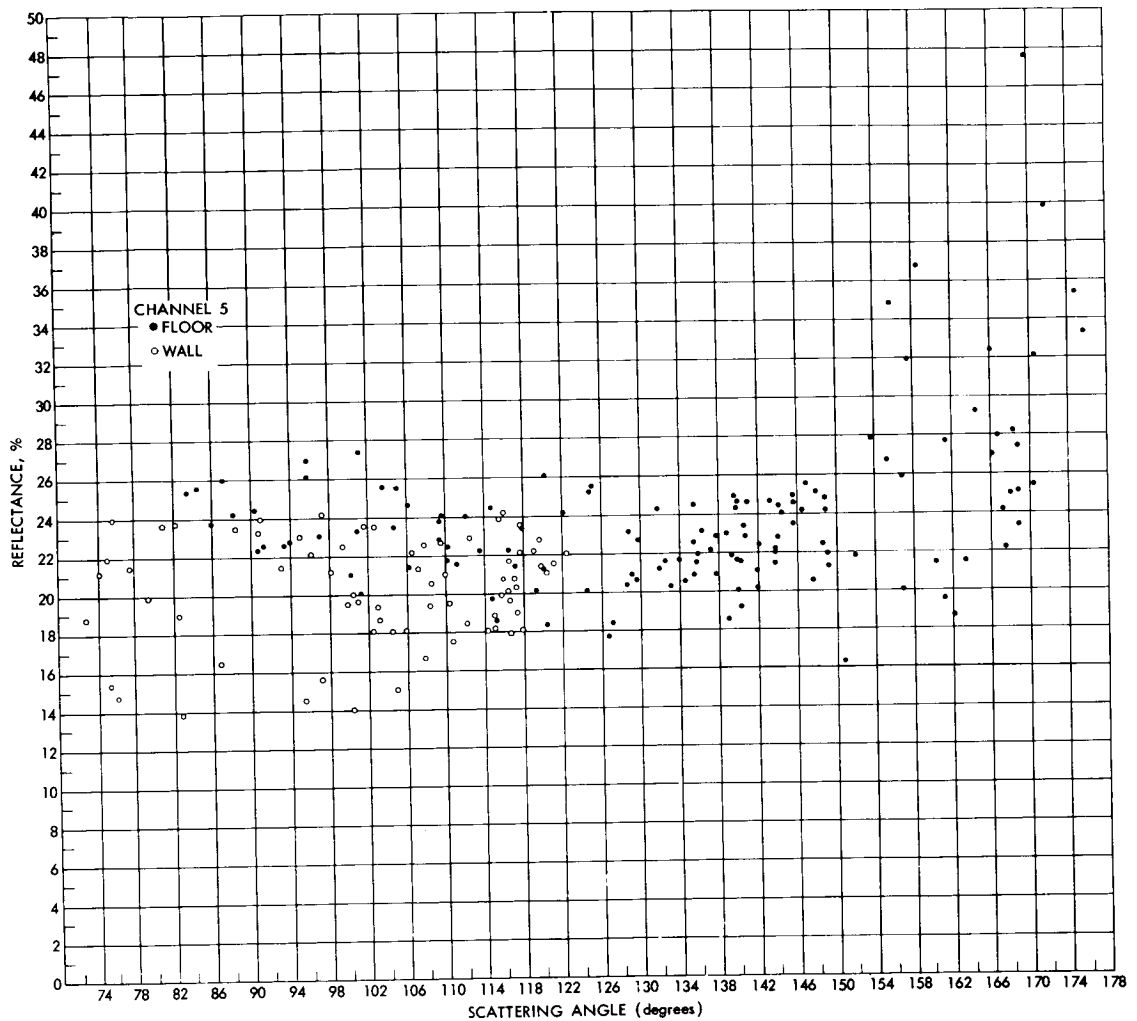


Figure 90b—Channel 5 floor and wall Sahara measurements vs. scattering angle ϕ (i.e., the angle between a ray of scattered radiation and the direction in which the incident radiation was advancing). The floor measurements are for February 10-13, 1965. During February 15-22, 1965, the satellite experienced a 105° torquing maneuver, resulting in a geometry which made possible daytime wall measurements over the Sahara Desert. The wall measurements are for February 23-28, 1965.

APPENDIX A
INDEX OF FINAL METEOROLOGICAL
RADIATION TAPES

Two hundred thirty-four tapes, containing data from 764 individual orbits of TIROS VII from October 1, 1964 to June 19, 1965, are tabulated on the following pages. The FMR tapes from this period are numbered from 789 to 1023. The nomenclature used in the Index and an example illustrating the use of the Index is given in Appendix A, Volume 1.

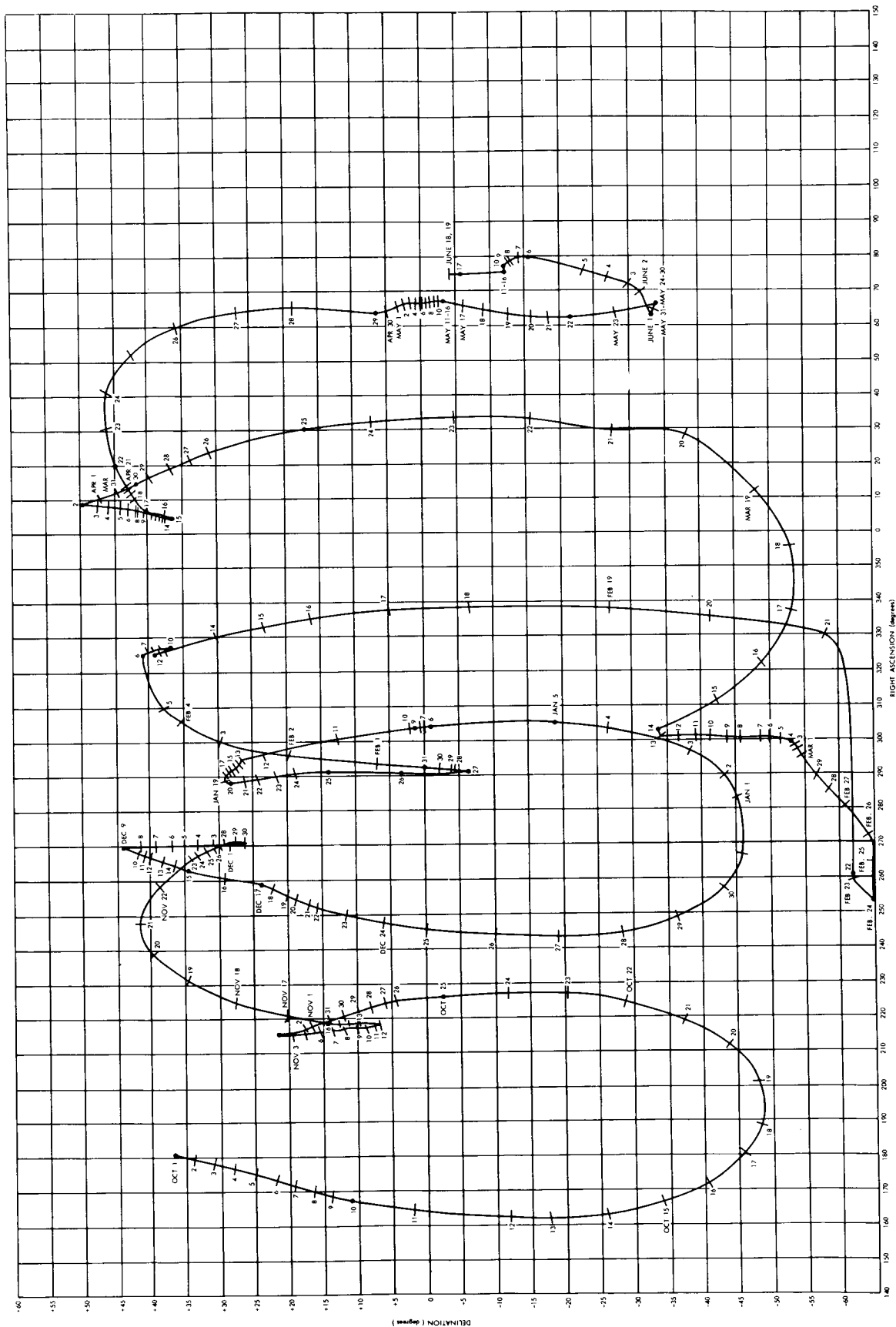


Figure A1—Observed motion of the TIROS VII spin vector on the celestial sphere.
Each subdivision represents one day. Positions at 12 GMT each day are indicated.

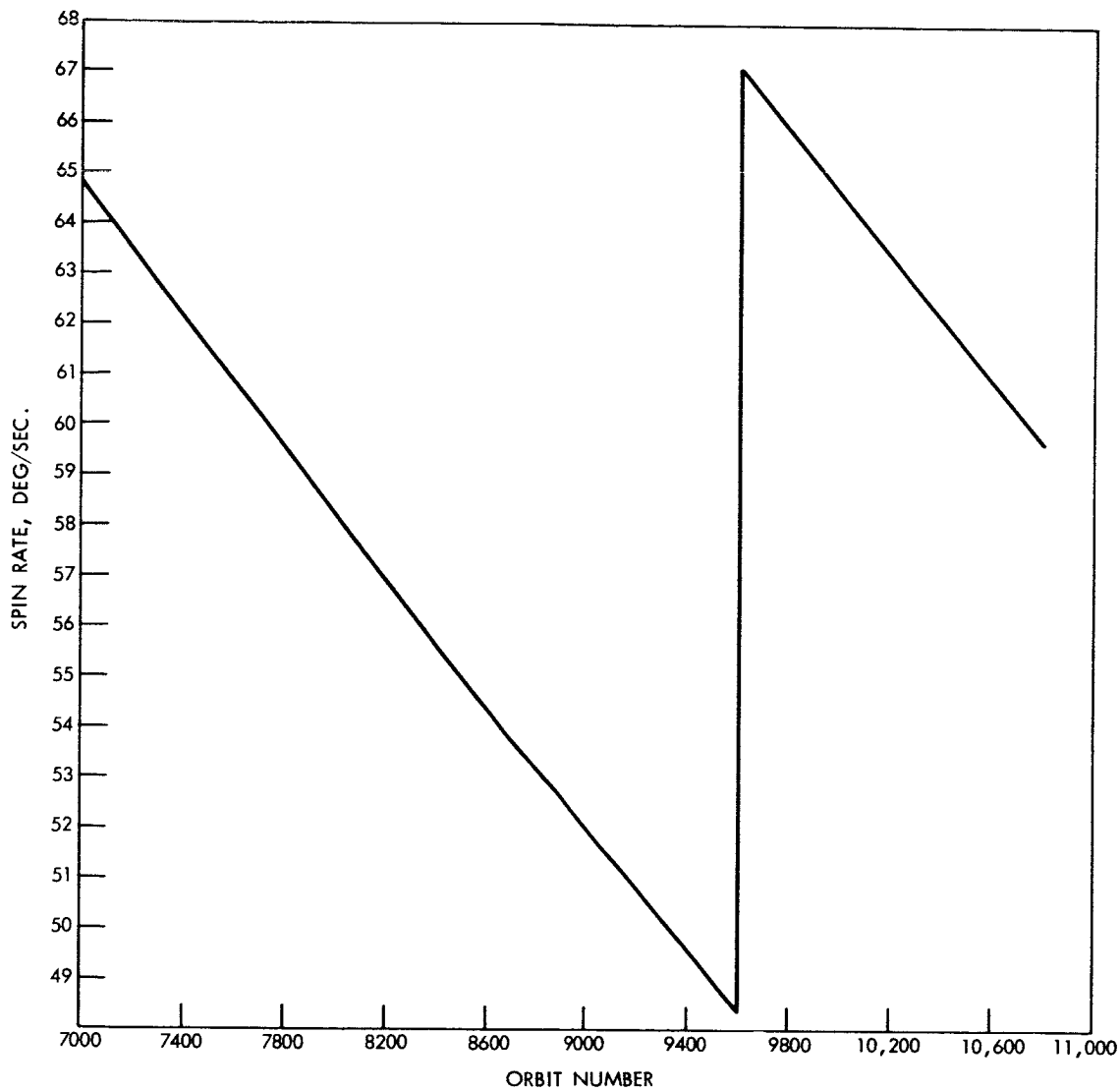


Figure A2—Time history of the TIROS VII spin rate.

ORBIT NO.	CWA STA	READOUT										ORBIT					TIME INTERVAL OF FILE ON FMR TAPE					FMR TAPE REEL NO.
		SATELLITE			EQUATOR		CROSSING AT		SPIN		VECTOR		ATTITUDE		BEGIN		E N D		DROPOUTS, MINUTES			
		EARTH LONGI (DEG)	HOURS	MINUTES	ASCENDING	NODE	CALENDAR	DATE	TIROS DAY	DECLI -NA (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM (DEG)	TOT (MIN. AFTER. ANO)	SPIN RATE (DEG /SEC)	MINU -YES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -YES W/R/T ANO	TO- FROM-				
6566	2	114.60	14	34	*33	10/ 2/64	471	33.0	179.0	-27.7	42.3	65.152	-56.6	15* 8* 3	33.5	789						
6576	2	-132.10	6	48	*34	10/ 3/64	472	30.8	178.1	-28.2	43.1	65.071	-58.2	6*59* 3	10.5	790						
6579	1	153.88	11	46	*47	10/ 3/64	472	30.4	177.6	-28.3	43.2	65.046	6.2	12*14* 3	33.3	790						
7006	2	-152.24	7	30	*38	10/ 5/64	474	25.0	174.8	-29.6	45.2	64.827	-58.9	7*41* 3	10.4	791						
7021	2	-162.31	7	51	*40	10/ 6/64	475	22.2	173.2	-30.2	46.2	64.705	-75.8	8* 5* 3	13.4	792						
7023	1	148.34	11	*	6*28	10/ 6/64	475	21.9	172.9	-30.3	46.3	64.689	9.0	11*40* 3	33.6	792						
7024	1	123.60	12	43	*52	10/ 6/64	475	21.7	172.8	-30.3	46.4	64.681	27.9	13*22* 3	38.2	792						
7025	2	58.59	14	21	*16	10/ 6/64	475	21.5	172.8	-30.4	46.5	64.673	-45.9	14*56* 3	34.8	792						
7038	1	128.27	11	27	*30	10/ 7/64	476	19.1	171.4	-31.0	47.4	64.568	23.8	12* 2* 3	34.6	793						
7040	2	68.93	14	42	*18	10/ 7/64	476	18.7	171.2	-31.1	47.6	64.552	-61.3	15*19* 3	36.8	793						
7050	2	-157.77	6	56	*19	10/ 8/64	477	16.8	170.2	-31.6	48.4	64.473	-53.5	7* 8* 3	11.7	794						
7053	1	128.20	11	48	*32	10/ 8/64	477	16.4	169.8	-31.6	48.5	64.449	1.4	12*25* 3	36.5	794						
7079	2	-153.24	6	*	0*58	10/10/64	479	11.7	167.3	-32.9	50.4	64.247	-51.3	6*11*33	10.6	795						
7082	1	122.74	10	53	*10	10/10/64	479	11.3	166.9	-32.9	50.6	64.224	-49.7	11*28* 3	34.9	795						
7084	2	83.40	14	*	7*59	10/10/64	479	10.1	166.8	-32.9	50.8	64.209	-39.2	14*46* 3	38.1	795						
7106	1	-59.36	1	50	*50	10/12/64	481	-4.5	163.4	-26.4	55.1	64.045	-60.4	2* 0* 3	9.2	796						
7111	1	127.28	9	57	*51	10/12/64	481	-7.2	161.9	-24.6	55.6	64.009	-31.8	10*32* 3	34.2	796						
7120	1	-84.75	0	24	*28	10/13/64	482	-13.6	162.3	-22.2	57.5	63.944	-90.0	0*43* 3	8.6	797						
7123	2	-158.84	5	26	*40	10/13/64	482	-15.2	161.7	-21.3	57.9	63.923	-54.4	5*39* 3	12.4	797						
7128	2	77.79	13	33	*41	10/13/64	482	-18.4	161.3	-19.6	58.6	63.888	-38.8	14*12* 3	38.4	798						
7137	2	-144.24	4	10	*18	10/14/64	483	-24.1	162.3	-17.6	60.5	63.826	-71.3	4*18*33	8.3	799						
7140	3	141.73	9	*	2*30	10/14/64	483	-25.6	161.9	-16.7	60.9	63.806	-54.7	9*22* 3	19.6	799						
7142	2	52.39	12	17	*18	10/14/64	483	-27.0	162.1	-16.1	61.2	63.793	7.3	12*53* 3	35.8	799						
7149	1	-80.30	23	*39* 7		10/14/64	483	-31.5	164.4	-14.7	62.8	63.746	-89.5	23*48* 3	8.9	800						
7150	1	-104.98	1	*16*31		10/15/64	484	-31.9	164.6	-14.6	63.0	63.740	-78.3	1*27* 3	10.5	800						
7152	2	-154.32	4	*31*19		10/15/64	484	-32.8	164.6	-14.2	63.3	63.727	-64.9	4*42* 3	10.7	800						

READOUT										ORBIT						TIME INTERVAL OF FILE ON FMR TAPE					
ORBIT NO.	CUA STA	SATELLITE ORBITAL			EQUATOR CROSSING AT			SPIN		VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES		FMR TAPE REEL NO.
		LONG (DEG)	HOURS	MINUTES	CALENDAR DATE	TIROS DAY	DECLI -NA (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND			FROM- TO-					
7155	1	131.65	9*23*32	10/15/64	484		-34.3	164.6		-13.5	63.7	63.707	-52.3	9*59*3	35.5						800
7157	2	82.31	12*38*20	10/15/64	484		-35.6	165.2		-12.9	64.0	63.694	-39.9	13*15*3	36.7						800
7164	1	-90.38	0* 0* 8	10/16/64	485		-39.4	168.9		-11.9	65.5	63.650	-89.0	0* 9*3	8.9						801
7165	1	-115.05	1*37*32	10/16/64	485		-39.7	169.2		-11.8	65.7	63.644	-77.3	1*50*3	12.5						801
7167	2	-164.39	4*52*21	10/16/64	485		-40.4	169.6		-11.5	66.0	63.631	-62.8	5* 6*3	13.7						801
7169	1	146.25	8* 7* 9	10/16/64	485		-41.2	169.9		-11.2	66.3	63.619	-60.8	8*40*3	32.9						801
7171	2	56.91	11*21*57	10/16/64	485		-42.3	170.6		-10.7	66.5	63.607	-41.8	11*57*3	35.1						801
7181	2	-149.79	3*35*58	10/17/64	486		-46.0	177.5		-9.7	68.7	63.547	-13.3	3*45*3	9.1						802
7185	2	111.51	10* 5*35	10/17/64	486		-47.3	179.0		-9.2	69.3	63.524	-42.3	10*39*3	33.5						802
7186	2	86.83	11*42*59	10/17/64	486		-47.7	179.9		-8.9	69.5	63.518	-52.7	12*18*33	35.6						802
7193	1	-85.86	23* 4*48	10/17/64	486		-49.2	186.8		-8.5	71.1	63.478	-60.2	23*13*3	8.3						803
7194	1	-110.53	0*42*12	10/18/64	487		-49.2	187.5		-8.6	71.3	63.473	-76.4	0*53*3	10.9						803
7195	2	-135.20	2*19*36	10/18/64	487		-49.2	188.1		-8.6	71.5	63.467	-74.6	2*27*3	7.5						803
7201	2	76.76	12* 4* 1	10/18/64	487		-50.2	192.0		-8.1	72.4	63.434	-21.3	12*42*33	38.5						803
7208	1	-55.93	23*25*47	10/18/64	487		-49.7	199.4		-8.1	74.2	63.397	-38.5	23*35*3	9.3						804
7209	1	-120.60	1* 3*13	10/19/64	488		-49.5	200.1		-8.3	74.3	63.392	-74.7	1*17*3	13.8						804
7210	2	-145.28	2*40*38	10/19/64	488		-49.3	200.6		-8.4	74.4	63.387	-37.7	2*50*3	9.4						804
7215	2	91.36	10*47*38	10/19/64	488		-49.1	203.8		-8.4	75.2	63.362	-28.5	11*23*33	35.9						804
7223	1	-106.00	23*46*51	10/19/64	488		-46.5	211.3		-8.9	77.0	63.334	-78.9	23*58*3	11.2						805
7224	2	-130.67	1*24*15	10/20/64	489		-46.1	211.7		-9.2	77.2	63.327	-72.5	1*32*3	7.8						805
7230	2	81.36	11* 8*40	10/20/64	489		-44.6	214.7		-9.6	78.1	63.285	-30.4	11*45*33	36.9						805
7238	1	-116.00	0* 7*53	10/21/64	490		-40.4	219.9		-10.7	80.0	63.228	-74.0	0*24*3	16.2						806
7244	3	55.96	9*52*17	10/21/64	490		-38.1	221.5		-11.8	80.9	63.187	-33.0	10*18*33	26.3						806
7259	2	15.89	10*13*19	10/22/64	491		-29.5	225.8		-14.7	83.8	63.082	-62.2	10*49*33	36.2						807
7267	1	-111.46	23*12*31	10/22/64	491		-23.7	227.6		-16.5	85.7	63.027	-74.2	23*25*3	12.5						808
7268	2	-136.14	0*49*50	10/23/64	492		-23.0	227.5		-16.9	85.8	63.020	-71.5	0*58*3	8.1						808

URBIT No.	CDA STA	READOUT				ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE					
ORBIT No.	CUA STA	SATELLITE ORBITAL		EQUATOR ASCENDING		CROSSING AT NODE (AND)		SPIN		VECTOR		ATTITUDE		BEGIN MINU -TES W/R/T AND	E N D		DROPOUTS, MINUTES W/R/T AND		FMR TAPE REFL NO.
		EARTH LONGI (DEG)	MINUTES (GMT)	CALENDAR DATE	TIRUS DAY	DECLI -NA (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM- TO-						
7371	2	-157.34	0* 2*18	10/30/64	499	11.3	221.0	-23.1	97.2	62.338	-61.5	0*14*33	12.3					815	
7373	3	153.30	3*17* 6	10/30/64	499	11.5	220.8	-23.0	97.3	62.326	-62.3	3*36*33	19.5					815	
7374	3	128.63	4*54*30	10/30/64	499	11.6	220.8	-22.9	97.3	62.319	-66.1	5*16*33	22.1					815	
7376	2	79.29	8* 9*18	10/31/64	499	11.8	220.7	-22.6	97.4	62.307	-51.9	8*47*33	38.3					815	
7383	1	-53.40	19*31* 7	10/30/64	499	12.7	220.3	-22.1	0.4	62.262	-86.5	19*41* 3	9.9					816	
7385	2	-142.74	22*45*55	10/30/64	499	13.0	220.1	-21.9	0.5	62.250	-64.0	22*55* 3	9.1					816	
7390	4	93.89	6*52*56	10/31/64	500	13.7	219.6	-21.6	0.8	62.218	-60.5	7*28*33	35.6					816	
7398	1	-103.47	19*52* 8	10/31/64	500	14.9	219.0	-21.0	1.3	62.168	-77.4	20* 3* 3	10.9					817	
7403	3	133.16	3*59* 9	11/ 1/64	501	15.6	218.3	-20.9	1.5	62.136	-51.1	4*20*33	21.4					817	
7405	2	63.82	7*13*57	11/ 1/64	501	15.9	218.2	-20.7	1.6	62.124	-35.0	7*50*33	36.6					817	
7412	1	-88.87	18*35*46	11/ 1/64	501	17.0	217.7	-20.1	2.1	62.080	-86.3	18*45* 3	9.3					818	
7414	2	-138.22	21*50*34	11/ 1/64	501	17.3	217.3	-20.0	2.2	62.068	-56.5	21*59* 3	8.5					818	
7417	3	147.76	2*42*46	11/ 2/64	502	17.7	217.0	-19.9	2.3	62.049	-67.3	3* 3* 3	20.3					818	
7418	3	123.09	4*20*10	11/ 2/64	502	17.8	216.9	-19.9	2.4	62.043	-63.1	4*42*33	22.4					818	
7419	2	98.42	5*57*34	11/ 2/64	502	18.0	216.9	-19.8	2.5	62.037	-62.5	6*31*33	34.0					818	
7427	1	-58.94	16*56*47	11/ 2/64	502	19.2	216.3	-19.0	3.0	61.988	-79.5	19* 7* 3	10.3					819	
7429	2	-148.29	22*11*35	11/ 2/64	502	19.5	216.0	-19.0	3.1	61.976	-63.0	22*22* 3	10.5					819	
7431	3	162.35	1*26*23	11/ 3/64	503	19.8	215.7	-19.0	3.2	61.963	-62.0	1*45*33	19.2					819	
7432	3	137.68	3* 3*47	11/ 3/64	503	19.9	215.6	-18.9	3.2	61.957	-65.0	3*24*33	20.8					819	
7433	3	113.01	4*41*12	11/ 3/64	503	20.1	215.6	-18.8	3.3	61.951	-64.9	5* 4*33	23.4					819	
7434	2	86.34	6*18*36	11/ 3/64	503	20.2	215.6	-18.7	3.4	61.945	-48.4	6*54*33	36.0					819	
7443	2	-133.70	20*55*12	11/ 3/64	503	21.2	215.1	-17.9	3.9	61.890	-77.9	21* 3* 3	7.9					820	
7446	3	152.24	1*47*25	11/ 4/64	504	20.8	215.3	-16.9	3.9	61.872	-54.4	2* 7*33	20.1					820	
7447	3	127.61	3*24*49	11/ 4/64	504	20.7	215.3	-16.6	3.9	61.866	-65.2	3*46*33	21.7					820	
7449	2	78.27	6*39*37	11/ 4/64	504	20.4	215.3	-16.1	3.9	61.854	-51.2	7*17*33	37.9					820	
7456	1	-94.42	18* 1*26	11/ 4/64	504	19.2	215.3	-14.0	3.9	61.812	-86.5	18*11*33	10.1					821	

READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	CDA STA	SATELLITE EQUATOR CROSSING AT			SPIN VECTOR		ATTITUDE		BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND							
		CRAITAL EARTH LONGI TUDE (DEG)	ASCENDING CALENDAR DATE	TIROS DAY	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -NUM NADIR (DEG)	TOT (MIN. AFTER AND)		SPIN RATE IDEG /SEC)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	TO-						
7461	3	142.21	2* 8*26	11/ 5/64	505	18.5	215.5	-12.4	3.9	61.782	-30.2	2*29*33	21.1			821				
7475	3	156.81	0*52* 3	11/ 6/64	506	16.4	215.9	-8.2	3.9	61.698	-50.6	1*12* 3	20.0			822				
7477	3	107.47	4* 6*51	11/ 6/64	506	16.1	215.9	-7.6	3.9	61.686	-54.4	4*31* 3	24.2			822				
7465	1	-89.89	17* 6* 4	11/ 6/64	506	14.9	216.0	-5.2	3.9	61.639	-89.3	17*14*33	8.5			823				
7490	3	146.75	1*13* 5	11/ 7/64	507	14.3	216.3	-3.6	4.0	61.610	-16.8	1*33* 3	20.0			823				
7492	2	57.40	4*27*53	11/ 7/64	507	14.0	216.4	-3.0	4.0	61.598	-53.7	5* 2* 3	34.2			823				
7500	1	-99.96	17*27* 5	11/ 7/64	507	12.9	216.5	-0.6	4.0	61.551	-79.1	17*38* 3	11.0			824				
7502	2	-149.30	20*41*54	11/ 7/64	507	12.7	216.6	0.1	4.1	61.539	-63.2	20*52* 3	10.2			824				
7504	3	161.35	23*56*42	11/ 7/64	507	12.5	216.8	0.7	4.1	61.528	-63.9	0*15* 3	18.4			824				
7507	2	87.33	4*48*54	11/ 8/64	508	12.1	216.9	1.6	4.2	61.510	-45.3	5*25* 3	36.2			824				
7516	2	-134.70	19*25*31	11/ 8/64	508	11.0	217.1	4.3	4.3	61.458	-69.9	19*34* 3	8.5			825				
7519	1	151.28	0*17*43	11/ 9/64	509	10.7	217.3	5.2	4.4	61.441	-40.4	0*37*33	19.8			825				
7522	2	77.26	5* 9*55	11/ 9/64	509	10.3	217.4	6.2	4.4	61.424	-27.7	5*47*33	37.6			825				
7529	1	-95.43	16*31*44	11/ 9/64	509	9.5	217.6	8.2	4.5	61.384	-87.1	16*42* 3	10.3			826				
7531	2	-144.76	19*46*32	11/ 9/64	509	9.3	217.7	8.8	4.6	61.372	-63.5	19*56* 3	9.5			826				
7536	2	91.85	3*53*32	11/10/64	510	8.8	218.0	10.4	4.7	61.344	-58.0	4*29* 3	35.5			826				
7545	2	-130.18	18*30* 9	11/10/64	510	7.9	218.2	12.9	4.8	61.293	-69.2	18*37*33	7.4			827				
7548	3	155.80	23*22*21	11/10/64	510	7.8	218.3	13.7	4.9	61.276	-53.3	23*41*33	19.2			827				
7551	2	81.78	4*14*33	11/11/64	511	7.5	218.3	14.5	5.0	61.259	-43.4	4*51* 3	36.5			827				
7558	1	-50.91	15*36*22	11/11/64	511	7.0	218.3	16.2	5.2	61.219	-87.8	15*46* 3	9.7			828				
7560	2	-140.25	18*51*10	11/11/64	511	6.9	218.3	16.7	5.3	61.208	-64.1	19* 0* 3	8.9			828				
7562	1	170.40	22* 5*58	11/11/64	511	6.8	218.4	17.2	5.3	61.195	-65.1	22*36* 3	30.1			828				
7564	3	121.06	1*20*46	11/12/64	512	6.7	218.5	17.7	5.4	61.180	-27.3	1*43* 3	22.3			828				
7565	3	56.38	2*58*11	11/12/64	512	6.8	218.4	18.0	5.4	61.173	-63.8	3*24* 3	25.9			828				
7573	1	-100.57	15*57*23	11/12/64	512	7.7	218.5	19.1	6.0	61.115	-87.6	16* 8* 3	10.7			829				
7575	2	-150.32	19*12*11	11/12/64	512	7.9	218.4	19.4	6.1	61.101	-63.0	19*23* 3	10.9			829				

READOUT										ORBIT					TIME INTERVAL OF FILE ON FMR TAPE							FMR TAPE REEL NO.
ORBIT NO.	CWA STA	SATELLITE ORBITAL		EQUATOR ASCENDING		CROSSING AT NODE (ANU)		SPIN		VECTOR		ATTITUDE		SPIN RATE (/SEC)	BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND			
		EARTH LONGI (DEG)	MINUTES (GMT)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	DAY	TIROS	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)			MINU -TES W/R/T AND	FROM-	TO-				
7580	2	66.32	3*19*12	11/13/64	513	8.4	218.4	20.0	6.5	61.066	-50.6	3*55*33	36.4							829		
7585	2	-125.72	17*55*48	11/13/64	513	9.3	218.4	21.2	7.1	61.005	-70.1	1*5*3	9.3							830		
7592	3	150.26	22*48*0	11/13/64	513	9.6	218.4	21.6	7.3	60.986	-53.8	23*7*33	19.6							830		
7594	3	100.92	2*2*49	11/14/64	514	9.9	218.4	21.8	7.4	60.973	-54.7	2*28*33	25.7							830		
7604	2	-145.78	18*16*49	11/14/64	514	10.9	218.5	23.1	8.2	60.909	-70.2	18*27*3	10.2							831		
7606	1	164.86	21*31*38	11/14/64	514	11.1	218.4	23.3	8.3	60.896	-63.8	22*2*33	30.9							831		
7609	2	90.85	2*23*50	11/15/64	515	11.4	218.5	23.6	8.5	60.877	-46.8	2*59*3	35.2							831		
7618	2	-121.18	17*0*26	11/15/64	515	12.5	218.6	24.7	9.2	60.822	-63.4	17*8*3	7.6							832		
7621	3	154.79	21*52*39	11/15/64	515	12.8	218.6	25.0	9.4	60.805	-55.4	22*11*33	18.9							832		
7624	2	80.78	2*44*51	11/16/64	516	13.1	218.6	25.3	9.6	60.787	-43.8	3*22*3	37.2							832		
7631	1	-91.91	14*6*39	11/16/64	516	13.9	218.8	26.1	10.2	60.746	-86.8	14*16*3	9.4							833		
7633	2	-141.25	17*21*28	11/16/64	516	14.1	218.8	26.3	10.4	60.734	-64.2	17*31*3	9.6							833		
7638	3	95.38	1*28*28	11/17/64	517	15.8	219.0	26.4	10.8	60.706	15.0	1*54*33	26.1							833		
7665	1	149.26	21*18*18	11/18/64	518	30.8	225.6	21.0	16.5	60.557	-55.7	21*52*3	33.8							834		
7668	2	75.24	2*10*30	11/19/64	519	32.6	226.8	20.2	17.0	60.541	-66.0	2*49*33	39.1							834		
7675	1	-57.45	13*32*18	11/19/64	519	35.4	231.1	19.5	18.8	60.503	-87.8	13*43*3	10.8							835		
7676	1	-122.12	15*9*43	11/19/64	519	35.6	231.5	19.5	18.9	60.498	-75.2	15*24*3	14.3							835		
7677	2	-146.79	16*47*7	11/19/64	519	35.9	231.7	19.4	19.1	60.493	-71.7	16*57*33	10.4							835		
7680	1	139.19	21*39*19	11/19/64	519	36.8	232.4	19.0	19.5	60.477	-59.3	22*14*3	34.7							835		
7682	2	85.85	0*54*7	11/20/64	520	37.7	233.6	18.6	19.8	60.466	-56.0	1*30*3	35.9							835		
7690	1	-107.51	13*53*19	11/20/64	520	39.4	239.7	18.1	21.8	60.424	-77.6	14*5*3	11.7							836		
7692	2	-156.86	17*8*7	11/20/64	520	39.6	240.5	18.1	22.1	60.413	-73.8	17*19*3	10.9							836		
7694	1	153.79	20*22*56	11/20/64	520	39.9	241.1	18.1	22.4	60.403	-63.0	20*54*33	31.6							836		
7695	1	129.12	22*0*20	11/20/64	520	40.1	241.6	18.0	22.5	60.398	-54.0	22*35*33	35.2							836		
7696	3	104.45	23*37*44	11/20/64	520	40.4	242.2	17.8	22.7	60.392	-49.5	0*2*33	24.8							836		
7697	2	79.78	1*15*8	11/21/64	521	40.6	243.1	17.6	22.9	60.387	-60.7	1*52*3	36.9							836		

			READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE											
ORBIT NO.	CDA STA	SATELLITE ORBITAL			EQUATOR ASCENDING		CROSSING AT		SPIN		VECTOR		ATTITUDE		BEGIN		E N D		DROPOUTS, MINUTES		FMR TAPE REEL NO.													
		EARTH LCNG (DEG)	HOURS	MINUTES	CALENDAR	TIROS	DATE	DAY	DECLI -NA (DEG)	RIGHT ASCEN -TION (DEG)	MINI -MUN NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM- AND	TO- AND																
7704	1	-92.91	12*36*53	11/21/64	521	11/21/64	521	40.5	249.2	17.5	24.6	60.350	-84.3	12*45*33	8.7	837																		
7705	1	-117.58	14*14*20	11/21/64	521	11/21/64	521	40.4	249.6	17.7	24.8	60.345	-75.9	14*26*33	12.2	837																		
7706	2	-142.25	15*51*44	11/21/64	521	11/21/64	521	40.3	250.0	17.8	24.9	60.340	-71.5	15*59*33	7.8	837																		
7709	1	143.72	20*43*57	11/21/64	521	11/21/64	521	40.2	251.0	17.9	25.3	60.324	19.5	21*17*33	33.6	837																		
7710	3	119.05	22*21*21	11/21/64	521	11/21/64	521	40.3	251.6	17.8	25.4	60.319	-41.0	22*44*33	23.2	837																		
7711	2	94.38	23*50*45	11/21/64	521	11/21/64	521	40.3	252.3	17.7	25.6	60.313	-62.8	0*33*33	34.8	837																		
7719	1	-102.98	12*57*57	11/22/64	522	11/22/64	522	38.5	258.6	18.0	27.5	60.271	-77.0	13* 9* 3	11.1	838																		
7720	2	-127.65	14*35*21	11/22/64	522	11/22/64	522	38.2	258.9	18.2	27.7	60.266	-72.5	14*42* 3	6.7	838																		
7721	2	-152.32	16*12*45	11/22/64	522	11/22/64	522	37.9	259.2	18.4	27.8	60.260	-79.3	16*22*33	9.8	838																		
7723	1	158.33	19*27*34	11/22/64	522	11/22/64	522	37.5	259.7	18.7	28.1	60.250	-43.3	19*58*33	31.0	838																		
7724	1	133.65	21* 4*58	11/22/64	522	11/22/64	522	37.4	260.1	18.8	28.2	60.244	-54.4	21*40* 3	35.1	838																		
7725	2	108.58	22*42*22	11/22/64	522	11/22/64	522	37.3	260.7	18.7	28.4	60.239	-48.5	23*16* 3	33.7	838																		
7726	2	64.31	0*19*46	11/23/64	523	11/23/64	523	37.1	261.4	18.6	28.6	60.227	-50.0	0*57* 3	37.3	838																		
7733	1	-68.38	11*41*34	11/23/64	523	11/23/64	523	34.1	266.0	19.3	30.3	60.179	-84.3	11*51*33	10.0	839																		
7735	2	-137.72	14*50*22	11/23/64	523	11/23/64	523	33.3	266.3	19.8	30.7	60.165	-77.9	15* 3*33	7.2	839																		
7738	1	148.26	19*48*35	11/23/64	523	11/23/64	523	33.2	266.5	19.8	30.9	60.146	-47.9	20*21*33	33.0	839																		
7739	1	123.59	21*25*59	11/23/64	523	11/23/64	523	33.1	266.6	19.7	31.0	60.139	-52.6	22* 2*33	36.6	839																		
7740	3	58.92	23* 3*23	11/23/64	523	11/23/64	523	33.1	266.7	19.7	31.1	60.132	-48.7	23*28*33	25.2	839																		
7748	1	-58.45	12* 2*35	11/24/64	524	11/24/64	524	32.5	267.4	19.1	31.8	60.080	-72.4	12*11*33	9.0	840																		
7749	1	-123.12	13*39*59	11/24/64	524	11/24/64	524	32.4	267.5	19.0	31.8	60.074	-76.4	13*53*33	13.6	840																		
7750	2	-147.79	15*17*23	11/24/64	524	11/24/64	524	32.4	267.5	18.9	31.9	60.068	-71.2	15*27* 3	9.7	840																		
7752	1	162.85	18*32*11	11/24/64	524	11/24/64	524	32.3	267.6	18.8	32.1	60.055	-63.2	19* 2*33	30.4	840																		
7753	1	138.18	20* 9*36	11/24/64	524	11/24/64	524	32.2	267.7	18.7	32.1	60.049	-55.2	20*45* 3	35.5	840																		
7754	3	113.51	21*47* 0	11/24/64	524	11/24/64	524	32.2	267.7	18.6	32.2	60.042	13.3	22*10*13	23.2	840																		
7755	2	68.84	23*24*24	11/24/64	524	11/24/64	524	32.1	267.8	18.5	32.3	60.036	-60.4	0* 1*33	37.2	840																		
7763	1	-108.52	12*23*36	11/25/64	525	11/25/64	525	31.5	268.5	17.9	32.9	59.986	-80.0	12*34*33	11.0	841																		

READOUT										ORBIT					TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	COA STA	SATELLITE ORBITAL		EQUATOR CROSSING AT		SPIN		VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N O		DROPOUTS, MINUTES					
		EARTH LONGI- TUD (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	DECLI- NA- TION (DEG)	RIGHT ASCEN- SION (DEG)	MINI- MUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU- TES W/R/T AND	HOURS MINUTES SECONDS (GMT)			MINU- TES W/R/T AND	FROM-	TO-					
7764	2	-133.19	14* 1* 0	11/25/64	525	31.4	268.5	17.8	33.0	59.980	-73.3	14* 8*33	7.6				841				
7765	2	-157.86	15*38*24	11/25/64	525	31.2	268.6	17.7	33.1	59.974	-77.1	15*49*33	11.2				841				
7767	1	152.79	18*53*12	11/25/64	525	31.2	268.6	17.6	33.2	59.962	-60.7	19*26* 3	32.9				841				
7769	2	103.44	22* 8* 0	11/25/64	525	31.1	268.8	17.4	33.4	59.950	-38.4	22*41*33	33.6				841				
7770	2	78.78	23*45*25	11/25/64	525	31.0	268.9	17.3	33.5	59.944	-50.3	0*22*33	37.1				841				
7777	1	-93.91	11* 7*13	11/26/64	526	30.4	269.4	16.6	34.0	59.902	-87.7	11*16*33	9.3				842				
7778	1	-118.58	12*44*37	11/26/64	526	30.3	269.4	16.6	34.1	59.896	-32.6	12*57*33	12.9				842				
7779	2	-143.25	14*22* 1	11/26/64	526	30.2	269.4	16.5	34.2	59.890	-73.1	14*30*33	8.5				842				
7781	1	167.39	17*36*49	11/26/64	526	30.1	269.5	16.3	34.3	59.878	-66.0	18* 6*33	29.7				842				
7782	1	142.72	19*14*13	11/26/64	526	30.1	269.5	16.2	34.4	59.872	-4.8	19*49* 3	34.8				842				
7783	3	118.05	20*51*37	11/26/64	526	30.0	269.6	16.1	34.4	59.866	-50.7	21*14*33	22.9				842				
7784	2	53.38	22*29* 1	11/26/64	526	29.9	269.7	16.0	34.5	59.860	-61.8	23* 5* 3	36.0				842				
7792	1	-103.68	11*28*14	11/27/64	527	29.2	270.4	15.1	35.2	59.813	-77.2	11*37*33	9.3				843				
7794	2	-153.32	14*43* 2	11/27/64	527	29.0	270.5	14.9	35.3	59.802	-65.0	14*53* 3	10.0				843				
7799	2	83.31	22*50* 2	11/27/64	527	28.7	270.7	14.4	35.5	59.773	-40.3	23*26*33	36.5				843				
7806	1	-65.37	10*11*51	11/28/64	528	28.1	271.1	13.5	36.1	59.732	-86.7	10*20*33	8.7				844				
7808	2	-138.72	13*26*39	11/28/64	528	28.0	271.2	13.3	36.2	59.720	-64.4	13*14*33	7.9				844				
7813	2	57.92	21*33*39	11/28/64	528	27.7	271.3	12.6	36.5	59.692	-42.1	22* 7*33	33.9				844				
7822	2	-124.11	12*10*16	11/29/64	529	27.0	271.6	11.5	37.1	59.640	-65.0	12*17* 3	6.8				845				
7825	1	161.87	17* 2*28	11/29/64	529	26.9	271.6	11.1	37.3	59.622	-29.6	17*13* 3	30.6				845				
7826	1	137.19	18*39*52	11/29/64	529	26.8	271.6	11.0	37.3	59.616	-38.9	19*13*33	33.7				845				
7827	3	112.52	20*17*16	11/29/64	529	26.7	271.6	10.9	37.4	59.611	-50.3	20*40*33	23.3				845				
7836	1	-109.51	10*53*52	11/30/64	530	26.1	271.9	9.6	38.0	59.558	-81.7	11* 4*33	10.7				846				
7838	2	-158.85	14* 8*41	11/30/64	530	26.0	271.9	9.4	38.1	59.546	-61.6	14*20*33	11.9				846				
7843	2	77.79	22*15*41	11/30/64	530	26.0	271.8	8.7	38.3	59.517	-43.9	22*53*33	37.9				846				
7850	1	-54.93	9*37*29	12/ 1/64	531	26.8	271.6	7.1	38.4	59.475	-86.4	9*46*33	9.1				847				

HEADOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE										FMR TAPE REEL NO.	
ORBIT NO.	CDA STA	SATELLITE EQUATOR CROSSING AT				SPIN VECTOR ATTITUDE				BEGIN		E N D				DROPOUTS, MINUTES															
		ORBITAL ASCENDING		AT		DECLI		RIGHT		MINI		TOT		SPIN		HOURS		MINUTES		W/R/T AND		FROM- TO-									
		EARTH LONGI- TUD (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR	FIROS	NA- TION (DEG)	ASCEN- SION (DEG)	MUM NADIR (DEG)	(MIN. AFTER AND)	RATE (DEG /SEC)	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND	MINU- TES W/R/T AND											
7945	2	81.31	19*50*34	12/ 7/64	537	39.7	270.4	-15.9	38.5	58.803	-39.6	20*29* 3	38.5																		853
7954	1	-140.75	10*27*10	12/ 8/64	538	41.3	270.3	-18.1	38.3	58.740	-64.6	10*34*33	7.4																		854
7957	1	145.23	15*19*23	12/ 8/64	538	41.8	270.3	-18.8	38.3	58.716	-59.0	15*51*33	32.2																		854
7959	2	55.89	18*34*11	12/ 8/64	538	42.1	270.2	-19.3	38.3	58.700	-41.6	19* 8*33	34.4																		854
7971	1	159.83	14* 2*59	12/ 9/64	539	44.3	270.0	-22.1	37.9	58.607	-67.1	14*33*33	30.6																		855
7984	2	-160.88	11* 9*12	12/10/64	540	43.2	269.2	-23.6	38.4	58.506	-59.0	11*21*33	12.4																		856
7986	1	145.77	14*24* 0	12/10/64	540	43.1	269.0	-23.7	38.5	58.491	5.5	14*56*33	32.6																		856
8000	1	164.37	13* 7*36	12/11/64	541	41.3	268.1	-24.9	39.2	58.383	-68.2	13*38* 3	30.5																		857
8003	2	90.36	17*55*48	12/11/64	541	40.9	267.9	-25.1	39.3	58.360	-23.3	18*35* 3	35.3																		857
8013	2	-156.34	10*13*49	12/12/64	542	39.6	267.1	-26.0	39.8	58.284	-56.6	10*24*33	10.7																		858
8018	2	80.29	18*20*49	12/12/64	542	39.1	266.8	-26.4	40.1	58.246	-31.8	18*58* 3	37.2																		858
8027	2	-141.74	8*57*26	12/13/64	543	37.9	266.0	-27.1	40.5	58.179	-63.3	9* 5*33	8.1																		859
8032	2	54.90	17* 4*26	12/13/64	543	37.4	265.6	-27.5	40.7	58.141	-31.6	17*39* 3	34.6																		859
8042	2	-151.80	9*18*26	12/14/64	544	36.1	264.7	-28.4	41.2	58.066	-56.1	9*28*33	10.1																		860
8045	1	134.17	14*10*38	12/14/64	544	35.8	264.4	-28.6	41.4	58.044	-50.5	14*45* 3	34.4																		860
8047	2	84.83	17*25*26	12/14/64	544	35.6	264.3	-28.8	41.4	58.029	-38.0	18* 2* 3	36.6																		860
8059	1	148.77	12*54*15	12/15/64	545	34.2	263.2	-29.9	42.0	57.940	-63.5	13*27*33	33.3																		861
8062	2	74.76	17*46*27	12/15/64	545	33.1	263.0	-30.0	42.3	57.918	-29.8	18*25*33	39.1																		861
8069	1	-57.93	5* 8*15	12/16/64	546	29.9	261.8	-29.5	43.3	57.867	-4.5	5*17* 3	8.8																		862
8070	1	-122.60	6*45*39	12/16/64	546	29.6	261.5	-29.3	43.4	57.860	-76.0	7* 0* 3	14.4																		862
8071	2	-147.27	8*23* 3	12/16/64	546	29.3	261.2	-29.2	43.5	57.852	-71.0	8*32* 3	9.0																		862
8073	3	163.38	11*37*51	12/16/64	546	28.6	260.7	-28.9	43.7	57.838	-63.1	11*56*33	18.7																		862
8075	3	114.63	14*52*40	12/16/64	546	27.9	260.3	-28.7	43.8	57.823	-18.8	15*15*33	22.9																		862
8076	2	89.36	16*30* 4	12/16/64	546	27.5	260.3	-28.6	44.0	57.816	-60.1	17* 5* 3	35.0																		862
8083	1	-83.33	3*51*52	12/17/64	547	24.3	259.4	-28.2	45.0	57.765	-6.6	4* 0* 3	8.2																		863
8084	1	-108.00	5*29*16	12/17/64	547	23.9	259.1	-28.0	45.1	57.758	1.6	5*40* 3	10.8																		863

READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	COA STA	SATELLITE EQUATOR CROSSING AT			SPIN VECTOR ATTITUDE			BEGIN			E N D			DROPOUTS, MINUTES												
		CALCULATED			DECLINATION			RIGHT ASCENSION			MINU			HOURS			MINUTES									
		LONGI (DEG)	MINUTES (DEG)	SECONDS (GMT)	DATE	TIROS DAY	ASCEN (DEG)	DESCEN (DEG)	MINI (DEG)	TOT (MIN AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND	MINU -TES W/R/T AND	MINU -TES W/R/T AND	FROM- TO-											
8172	1	-119.67	4*20*31		12/23/64	553	13.7	250.8	-35.1	50.0	57.134	-4.9	4*32*33	13.0												869
8173	2	-143.74	5*57*55		12/23/64	553	13.6	250.6	-35.2	50.1	57.127	-0.9	6* 6*33	8.6												869
8176	3	142.24	10*50* 7		12/23/64	553	13.5	250.3	-35.4	50.2	57.107	-1.2	11* 9*33	19.4												869
8177	3	117.57	12*27*31		12/23/64	553	13.4	250.2	-35.5	50.2	57.100	-1.7	12*50* 3	22.5												869
8188	2	-153.80	6*18*55		12/24/64	554	11.5	248.5	-36.0	50.9	57.024	3.0	6*28*33	9.6												870
8190	3	156.84	9*33*43		12/24/64	554	10.4	247.5	-35.1	51.1	57.011	1.0	9*52* 3	18.3												870
8191	1	132.17	11*11* 8		12/24/64	554	9.8	247.2	-34.7	51.2	57.004	-8.3	11*46*33	35.4												870
8193	2	82.83	14*25*56		12/24/64	554	8.3	246.9	-33.9	51.6	56.990	-13.7	15* 2* 3	36.1												870
8220	3	136.71	10*15*44		12/26/64	556	-10.3	241.8	-24.1	56.5	56.807	-57.3	10*36* 3	20.3												871
8221	3	112.04	11*53* 8		12/26/64	556	-11.0	241.7	-23.7	56.7	56.800	-28.2	12*16*33	23.4												871
8229	1	-85.32	0*52*21		12/27/64	557	-17.1	242.4	-21.4	58.5	56.746	-90.6	1* 0*33	8.2												872
8230	1	-109.99	2*29*45		12/27/64	557	-17.7	242.3	-21.1	58.7	56.740	-78.9	2*41* 3	11.3												872
8234	1	151.32	8*59*21		12/27/64	557	-19.8	241.4	-19.7	59.2	56.713	-34.3	9*31* 3	31.7												872
8235	1	126.65	10*36*45		12/27/64	557	-20.5	241.3	-19.3	59.3	56.706	-54.3	11*12*33	35.8												872
8245	1	-120.05	2*50*45		12/28/64	558	-27.5	243.2	-16.7	61.5	56.640	-55.3	3* 1*33	12.8												873
8249	1	141.25	9*20*21		12/28/64	558	-29.5	242.8	-15.5	62.0	56.613	-37.7	9*54* 3	33.7												873
8259	1	-105.45	1*34*21		12/29/64	559	-36.1	246.6	-13.1	64.3	56.547	-57.7	1*44* 3	9.7												874
8261	2	-154.80	4*49*10		12/29/64	559	-36.9	247.0	-12.9	64.6	56.534	-64.7	4*59*33	10.4												874
8263	1	155.85	8* 3*58		12/29/64	559	-37.7	247.2	-12.5	64.9	56.520	-62.1	8*35*33	31.6												874
8273	1	-90.65	0*17*58		12/30/64	560	-42.8	253.7	-11.1	67.1	56.455	-58.5	0*26* 3	8.1												875
8274	1	-115.52	1*55*22		12/30/64	560	-43.0	254.1	-11.1	67.3	56.448	-78.1	2* 7*33	12.2												875
8278	1	145.78	8*24*58		12/30/64	560	-44.3	255.4	-10.7	67.9	56.422	10.4	8*57*33	32.6												875
8288	1	-100.92	0*38*58		12/31/64	561	-47.2	264.8	-10.0	70.3	56.357	-57.3	0*48* 2	9.1												876
8290	2	-150.26	3*53*46		12/31/64	561	-47.3	265.9	-10.2	70.7	56.344	-74.3	4* 3* 2	9.3												876
8292	1	160.39	7* 8*34		12/31/64	561	-47.5	266.8	-10.2	70.9	56.331	-65.3	7*39* 0	30.4												876
8332	1	-106.44	0* 4*35		1/ 3/65	564	-39.7	299.0	-12.2	73.5	56.073	-48.0	0*15* 3	10.5												877

READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE					FMR TAPE REEL NO.
ORBIT NO.	COA STA	SATELLITE EQUATOR CROSSING AT			SPIN VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND											
		EARTH LONGI- TUD (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	ASCENDING NODE (ANO)	DECLI- NA- TION (DEG)	RIGHT ASCEN- SION (DEG)			MINI- MUM NADIR (DEG)	TOT (MIN. AFTER ANO)	MINU- TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU- TES W/R/T AND	TO-									
8346	1	-91.83	22*48*12	1/ 3/65	564	-31.8	3*4.8	-14.9	82.5	55.984	-39.4	22*56*33	8.4				878								
8361	1	-101.90	23* 9*12	1/ 4/65	565	-21.8	307.8	-18.8	85.7	55.889	-58.6	23*18*33	9.4				879								
8362	2	-126.57	0*46*23	1/ 5/65	566	-20.9	307.2	-19.6	86.3	55.883	-76.0	0*53*33	7.2				879								
8377	2	-136.66	1* 7*36	1/ 6/65	567	-10.4	307.2	-24.5	88.7	55.789	-74.0	1*15*33	8.0				880								
8378	2	-161.33	2*45* 0	1/ 6/65	567	-9.8	306.9	-25.0	88.9	55.782	-78.3	2*57*33	12.6				880								
8392	2	-146.72	1*28*37	1/ 7/65	568	-0.8	305.6	-29.6	91.5	55.695	-71.0	1*37*33	8.9				881								
8404	1	-82.77	20*57*25	1/ 7/65	568	-0.1	304.7	-28.3	92.1	55.620	-90.3	21* 5*33	8.1				882								
8405	1	-107.44	22*54*49	1/ 7/65	568	-0.1	304.7	-28.2	92.1	55.614	-76.8	22*45*33	10.7				882								
8406	2	-132.11	0*12*13	1/ 8/65	569	-0.1	304.6	-28.1	92.2	55.608	-74.1	0*20*33	8.3				882								
8407	2	-156.78	1*49*37	1/ 8/65	569	-0.	304.5	-28.0	92.2	55.602	-75.8	2* 1*33	11.9				882								
8419	1	-92.84	21*18*25	1/ 8/65	569	0.5	303.7	-26.5	92.7	55.528	-54.0	21*28* 3	9.6				883								
8420	1	-117.51	22*55*49	1/ 8/65	569	0.6	303.6	-26.4	92.8	55.522	-75.2	23* 8*33	12.7				883								
8421	2	-142.18	0*33*13	1/ 9/65	570	0.7	303.7	-26.1	92.9	55.515	-71.1	0*42*33	9.3				883								
8434	1	-102.90	21*39*25	1/ 9/65	570	1.5	303.0	-24.4	93.5	55.436	-45.6	21*50* 3	10.6				884								
8436	2	-152.24	0*54*13	1/10/65	571	1.5	303.0	-24.1	93.6	55.423	-72.7	1* 4*33	10.3				884								
8449	1	-114.96	22* 0*25	1/10/65	571	2.4	302.2	-21.8	94.1	55.344	-79.7	22*12*33	12.1				885								
8450	2	-137.64	23*37*49	1/10/65	571	3.1	301.8	-22.4	94.3	55.338	-70.6	23*45*33	7.7				885								
8463	1	-58.42	20*44* 1	1/11/65	572	13.3	299.4	-26.9	97.0	55.259	-58.8	20*54* 3	10.0				886								
8464	1	-123.09	22*21*26	1/11/65	572	14.1	299.0	-27.4	97.2	55.253	-74.5	22*35*33	14.1				886								
8465	2	-147.76	23*58*50	1/11/65	572	14.8	298.5	-27.9	97.4	55.247	-71.9	0* 8*33	9.7				886								
8467	3	162.93	3*13*38	1/12/65	573	16.0	297.8	-29.0	0.3	55.235	-64.0	3*32* 3	18.4				886								
8468	3	138.26	4*51* 2	1/12/65	573	16.5	297.4	-29.4	0.4	55.229	-67.9	5*11* 3	20.0				886								
8483	3	128.20	5*12* 2	1/13/65	574	28.0	293.0	-34.6	3.7	55.138	-12.6	5*34* 3	22.0				887								
8496	3	167.48	2*18*14	1/14/65	575	28.2	292.7	-32.7	4.2	55.060	-32.0	2*36* 3	17.8				888								
8497	3	142.80	3*55*38	1/14/65	575	28.2	292.7	-32.6	4.2	55.054	-66.7	4*15*33	19.9				888								
8498	3	118.13	5*33* 2	1/14/65	575	28.2	292.7	-32.4	4.2	55.048	-65.2	5*55*33	22.5				888								

READOUT														ORBIT										TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	COA STA	SATELLITE ORBITAL		EQUATOR CROSSING AT		SPIN		VECTOR		ATTITUDE		BEGIN	E N D			DROPOUTS, MINUTES														
		EARTH LONGI- TUD E (DEG)	CALENDAR DATE	HOURS MINUTES SECONDS (GMT)	NOD E (ANO)	TIRDS DAY	DECLI- NA- TION (DEG)	RIGHT ASCEN- SION (DEG)	MINI- NADIR (DEG)	TOT (MIN. AND)	SPIN RATE (DEG /SEC)		MINU- TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU- TES W/R/T AND	FROM- TO-														
8507	1	-103.90	1/14/65	20* 9*38	575	28.2	292.2	-30.8	4.4	54.994	-78.4	20*20* 3	10.4				889													
8509	2	-153.24	1/14/65	23*24*26	575	28.2	292.1	-30.5	4.4	54.983	-74.5	23*34*33	10.1				889													
8513	3	108.07	1/15/65	5*54* 2	576	28.3	291.9	-29.9	4.5	54.959	15.4	6*17*33	23.5				889													
8526	5	147.35	1/16/65	3* 0*14	577	28.4	291.2	-27.8	4.8	54.881	-19.7	3*19*33	19.3				890													
8527	3	122.68	1/16/65	4*37*38	577	28.4	291.2	-27.7	4.8	54.875	-65.4	4*59*33	21.9				890													
8528	2	58.01	1/16/65	6*15* 2	577	28.4	291.1	-27.5	4.8	54.869	-60.7	6*49*33	34.5				890													
8541	3	137.28	1/17/65	3*21*14	578	28.6	290.4	-25.5	5.1	54.792	-66.7	3*41*23	20.3				891													
8542	3	112.61	1/17/65	4*58*38	578	28.6	290.4	-25.3	5.2	54.787	-64.3	5*22*33	23.9				891													
8543	2	87.94	1/17/65	6*36* 2	578	28.6	290.4	-25.1	5.2	54.781	-60.9	7*11*33	35.5				891													
8555	3	151.89	1/18/65	2* 4*50	579	28.8	289.8	-23.2	5.5	54.710	-71.1	2*23*33	18.7				892													
8556	3	127.22	1/18/65	3*42*15	579	28.8	289.8	-23.0	5.5	54.704	-67.1	4* 3*23	21.3				892													
8557	2	102.55	1/18/65	5*19*29	579	28.8	289.7	-22.8	5.5	54.698	-64.0	5*53*33	33.9				892													
8558	2	77.88	1/18/65	6*57* 2	579	28.8	289.7	-22.7	5.6	54.692	-52.3	7*34*33	37.5				892													
8566	1	-115.48	1/18/65	19*56*15	579	28.9	289.3	-21.4	5.8	54.645	-72.1	20* 9*33	13.3				893													
8570	3	141.80	1/19/65	2*25*51	580	29.0	289.1	-20.8	5.9	54.622	-63.9	2*45*33	19.7				893													
8572	4	92.45	1/19/65	5*40*39	580	29.0	289.0	-20.5	6.0	54.610	-65.1	6*15*33	34.9				893													
8585	3	131.73	1/20/65	2*46*51	581	29.2	288.6	-18.4	6.3	54.534	-71.0	3* 7*33	20.7				894													
8587	2	82.39	1/20/65	6* 1*39	581	28.8	288.7	-17.8	6.3	54.522	-62.1	6*38*33	36.9				894													
8596	2	-139.64	1/20/65	20*38*15	581	27.2	288.3	-15.5	6.1	54.470	-76.7	20*49* 3	10.8				895													
8599	1	146.34	1/21/65	1*30*27	582	26.7	288.3	-14.7	6.2	54.452	-50.9	2* 3* 3	32.6				895													
8600	3	121.67	1/21/65	3* 7*51	582	26.5	288.3	-14.4	6.1	54.446	-53.3	3*30*33	22.7				895													
8601	3	57.00	1/21/65	4*45*15	582	26.4	288.3	-14.1	6.1	54.441	-63.0	5*10*33	25.3				895													
8659	2	106.09	1/25/65	2*54*26	586	17.1	288.6	2.6	6.0	54.105	-32.9	3*29* 3	34.6				896													
8660	2	81.42	1/25/65	4*31*50	586	16.9	288.6	2.9	5.9	54.099	-49.0	5* 8*33	36.7				896													
8667	1	-51.28	1/25/65	15*53*38	586	15.8	288.5	4.9	5.9	54.059	-87.7	16* 3* 3	9.4				897													
8669	2	-140.62	1/25/65	19* 8*26	586	14.5	289.0	6.0	5.9	54.047	-63.7	19*19* 3	10.6				897													

READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	LGA STA	SATELLITE EQUATOR CROSSING AT				SPIN		VECTOR		ATTITUDE		BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND				
		ORBITAL ASCENDING NODE (AND)		TIROS		DECLI -NATION (DEG)	RIGHT ASCEN -TION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)		MINU -TES W/R/T AND	TO-						
		LCNGI -TIDE (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	DAY															
8844	2	-138.03	15*13*25	2/ 6/65	598	37.9	324.4	19.9	26.0	53.051	-72.5	15*20*33	7.1				904			
8847	3	147.94	20* 5*37	2/ 6/65	598	37.9	324.4	19.9	26.1	53.034	-53.9	20*25*33	19.9				904			
8849	2	58.60	23*20*25	2/ 6/65	598	37.9	324.5	19.8	26.3	53.023	-53.7	23*54*33	34.1				904			
8857	1	-58.76	12*19*37	2/ 7/65	599	37.8	325.1	19.6	26.8	52.977	-78.0	12*31* 3	11.4				905			
8858	2	-123.43	13*57* 1	2/ 7/65	599	37.8	325.1	19.6	26.9	52.972	-72.6	14* 3*33	6.5				905			
8859	2	-148.10	15*34*25	2/ 7/65	599	37.7	325.1	19.6	27.0	52.966	-78.2	15*45* 3	10.6				905			
8861	1	142.55	16*49*13	2/ 7/65	599	37.7	325.1	19.6	27.1	52.955	-62.2	19*19*33	30.3				905			
8864	2	58.54	23*41*25	2/ 7/65	599	37.7	325.2	19.4	27.2	52.938	-31.1	0*16*33	35.1				905			
8872	1	-108.82	12*40*37	2/ 8/65	600	37.5	325.6	19.2	27.8	52.892	-78.0	12*51*33	10.9				906			
8873	2	-133.49	14*18* 1	2/ 8/65	600	37.5	325.6	19.2	27.9	52.887	-74.3	14*27* 3	9.0				906			
8874	2	-158.16	15*55*25	2/ 8/65	600	37.4	325.6	19.1	27.9	52.881	-75.4	16* 7*33	12.1				906			
8876	3	152.49	19*10*13	2/ 8/65	600	37.4	325.6	19.1	28.0	52.870	-62.1	19*29*33	19.3				906			
8878	2	103.15	22*25* 1	2/ 8/65	600	37.4	325.6	19.0	28.1	52.858	-54.7	22*58*33	33.5				906			
8888	2	-143.55	14*39* 0	2/ 9/65	601	37.1	326.2	18.5	28.8	52.802	-65.1	14*48*33	9.6				907			
8892	3	117.75	21* 8*36	2/ 9/65	601	37.0	326.2	18.4	29.1	52.779	-41.1	21*31*33	23.0				907			
8893	2	93.08	22*40* 0	2/ 9/65	601	37.0	326.2	18.3	29.1	52.774	-61.2	23*20*33	34.6				907			
8902	2	-128.95	13*22*36	2/10/65	602	36.7	326.6	17.9	29.7	52.723	-66.8	13*31*33	9.0				908			
8903	2	-153.62	15* 0* 0	2/10/65	602	36.6	326.6	17.8	29.8	52.717	-76.0	15*10*33	10.6				908			
8908	2	83.02	23* 7* 0	2/10/65	602	36.5	326.6	17.5	30.1	52.689	-56.4	23*43*33	36.6				908			
8917	2	-139.01	13*43*36	2/11/65	603	38.0	326.4	15.6	30.3	52.638	-65.4	13*51*33	8.0				909			
8918	2	-143.68	15*21* 0	2/11/65	603	38.0	326.4	15.5	30.4	52.632	-77.5	15*34*33	13.6				909			
8921	3	122.30	20*13*12	2/11/65	603	38.1	326.4	15.1	30.5	52.615	-63.1	20*35*33	22.4				909			
8922	2	57.63	21*50*36	2/11/65	603	38.1	326.3	15.0	30.6	52.610	-61.2	22*24*33	34.0				909			
8934	3	161.58	17*19*23	2/12/65	604	38.9	325.9	13.5	31.0	52.537	-53.0	17*39* 3	19.7				910			
8936	3	112.24	20*34*11	2/12/65	604	38.9	325.8	13.2	31.1	52.526	-51.0	20*57*33	23.4				910			
8937	2	67.57	22*11*35	2/12/65	604	39.0	325.8	13.1	31.1	52.520	-60.8	22*47*33	36.0				910			

READOUT														ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	LDA STA	SATELLITE ORBITAL		EQUATOR CROSSING		AT (ANO)	SPIN (DEG)	VECTOR (DEG)	ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND								
		EARTH LONGI- TUD E (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY				DECLI- NATION (DEG)	RIGHT ASCEN- SION (DEG)			MINI- MUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU- TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU- TES W/R/T AND	FROM-	TO-					
8546	2	-134.46	12*48*11	2/13/65	605	605	39.7	325.2	11.9	31.3	52.468	-65.9	12*55*3	6.9				911						
8547	2	-159.13	14*25*35	2/13/65	605	605	39.7	325.2	11.8	31.4	52.462	-77.8	14*37*33	12.0				911						
8949	3	151.52	17*40*23	2/13/65	605	605	39.8	325.2	11.5	31.4	52.451	-60.6	17*59*33	19.2				911						
8950	1	126.85	19*17*47	2/13/65	605	605	39.8	325.2	11.4	31.5	52.445	-40.7	19*54*3	36.3				911						
8951	2	102.17	20*55*11	2/13/65	605	605	39.8	325.7	11.3	31.5	52.439	-51.7	21*28*33	33.4				911						
8952	2	77.50	22*32*35	2/13/65	605	605	39.3	326.4	11.0	31.7	52.434	-51.3	23*10*33	38.0				911						
8959	1	-55.18	9*54*23	2/14/65	606	606	34.4	330.4	12.1	33.5	52.393	-86.1	10*3*3	8.7				912						
8960	1	-119.85	11*31*47	2/14/65	606	606	33.7	330.5	12.5	33.7	52.388	-16.1	11*45*3	13.3				912						
8961	2	-144.52	13*9*11	2/14/65	606	606	33.1	330.6	12.9	33.9	52.382	-12.3	13*17*33	8.4				912						
8963	1	166.13	16*23*59	2/14/65	606	606	32.1	330.7	13.5	34.2	52.370	-14.9	16*55*3	31.1				912						
8973	1	-80.57	8*37*58	2/15/65	607	607	25.0	334.1	15.3	36.5	52.313	-29.8	8*46*33	8.6				913						
8974	1	-105.24	10*15*22	2/15/65	607	607	24.2	334.1	15.7	36.7	52.307	-43.0	10*25*33	10.2				913						
8975	2	-129.91	11*52*46	2/15/65	607	607	23.5	334.1	16.2	36.9	52.301	-73.7	12*0*3	7.3				913						
8976	2	-154.58	13*30*10	2/15/65	607	607	22.8	333.9	16.6	37.1	52.296	-26.7	13*41*3	10.9				913						
9093	2	-161.12	11*25*55	2/23/65	615	615	-65.3	259.0	56.4	71.8	51.623	-67.8	11*38*33	12.6				914						
9107	2	-146.51	10*9*30	2/24/65	616	616	-64.6	256.3	57.0	71.6	51.542	-93.4	10*19*3	9.6				915						
9110	1	139.47	15*1*42	2/24/65	616	616	-64.7	256.0	56.9	71.5	51.525	-69.3	15*35*3	33.4				915						
9122	2	-156.57	10*30*30	2/25/65	617	617	-64.1	263.4	56.0	69.4	51.456	-90.7	10*42*3	11.6				916						
9136	2	-141.96	9*14*5	2/26/65	618	618	-62.6	272.5	53.9	66.9	51.376	-96.0	9*22*3	8.0				917						
9139	1	144.02	14*0*17	2/26/65	618	618	-62.4	274.2	53.3	66.4	51.358	-69.1	14*39*3	32.8				917						
9141	2	94.68	17*21*5	2/26/65	618	618	-62.2	275.5	52.8	66.1	51.347	-68.6	17*56*3	35.0				917						
9151	2	-152.02	9*35*5	2/27/65	619	619	-60.3	281.2	50.4	64.5	51.289	-94.4	9*45*3	10.0				918						
9154	1	133.96	14*27*16	2/27/65	619	619	-60.0	282.7	49.6	64.1	51.272	-69.0	15*2*3	34.8				918						
9156	2	84.62	17*42*4	2/27/65	619	619	-59.7	283.8	49.0	63.9	51.261	-66.8	18*18*3	36.0				918						
9166	2	-162.08	9*56*4	2/28/65	620	620	-57.3	288.2	46.1	62.6	51.203	-91.6	10*8*33	12.5				919						
9171	2	74.56	18*3*4	2/28/65	620	620	-56.4	290.5	44.4	62.1	51.174	-65.7	18*42*3	39.0				919						

ORBIT NO.	CDA STA	HEADOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE										FMR TAPE REFL NO.																																																																																																																																																																																																																																																								
		SATELLITE EQUATOR CROSSING AT					SPIN VECTOR ATTITUDE					BEGIN					E N D					DROPOUTS, MINUTES W/R/T AND																																																																																																																																																																																																																																																																		
		ORBITAL ASCENDING		TIROS		DATE	DAY	DECL -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER ANO)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO		HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)	MINU -TES

READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE					
ORBIT NO.	CDA STA	SATELLITE EQUATOR CROSSING AT		SPIN VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D		DROPOUTS, MINUTES		FMR TAPE REEL NO.					
		ORBITAL EARTH LONGI (DEG)	ASCENDING HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	DECLINATION (DEG)	RIGHT ASCENSION (DEG)			MINI-NUM NADIR (DEG)	TOT (MIN. AFTER AND)	MINU-TES W/R/T AND	HOURS MINUTES SECONDS (GMT)		MINU-TES W/R/T AND	FROM- TO-			
9287	2	92.73	14*21*22	3/ 8/65	628	-46.1	30.0	18.7	60.3	50.277	-38.2	14*57* 3	35.7	927					
9296	2	-129.31	4*57*58	3/ 9/65	629	-44.8	299.8	16.9	60.1	50.221	-64.9	5* 4*33	6.6	928					
9297	2	-153.58	6*35*22	3/ 9/65	629	-44.7	299.8	16.7	60.1	50.215	-79.0	6*46* 3	10.7	928					
9299	1	156.67	9*50*10	3/ 9/65	629	-44.5	299.8	16.3	60.1	50.203	-62.8	10*21*33	31.4	928					
9302	2	82.66	14*42*21	3/ 9/65	629	-44.1	299.8	15.6	60.1	50.184	-38.5	15*18*33	36.2	928					
9311	2	-139.37	5*18*57	3/10/65	630	-42.7	299.5	13.7	59.9	50.130	-65.3	5*26*33	7.6	929					
9314	1	146.61	10*11* 9	3/10/65	630	-42.4	299.5	13.0	59.9	50.112	18.2	10*43*33	32.4	929					
9316	2	57.27	13*25*57	3/10/65	630	-42.1	299.5	12.5	59.9	50.100	-51.7	14* 2* 3	36.1	929					
9326	2	-149.43	5*39*56	3/11/65	631	-40.5	299.4	10.2	59.8	50.041	-53.7	5*49*33	9.6	930					
9328	1	161.22	8*54*44	3/11/65	631	-40.3	299.4	9.7	59.9	50.029	-62.0	9*25*33	30.8	930					
9329	1	136.55	10*32* 8	3/11/65	631	-40.2	299.4	9.5	59.9	50.023	-52.0	11* 5*32	33.4	930					
9330	2	111.88	12* 9*32	3/11/65	631	-40.0	299.4	9.2	59.9	50.018	-49.4	12*43* 3	33.5	930					
9331	2	87.21	13*46*56	3/11/65	631	-39.9	299.4	9.0	59.9	50.012	-50.8	14*23*33	36.6	930					
9343	1	151.16	9*15*43	3/12/65	632	-37.9	298.4	6.5	59.7	49.944	-61.9	9*47*33	31.8	931					
9344	1	126.49	10*53* 7	3/12/65	632	-37.8	298.3	6.3	59.7	49.938	-52.6	11*28*33	35.4	931					
9345	2	101.82	12*30*31	3/12/65	632	-37.6	298.1	6.1	59.7	49.933	-49.9	13* 4* 3	33.5	931					
9346	2	77.15	14* 7*55	3/12/65	632	-37.5	297.9	6.0	59.7	49.927	-51.1	14*45*33	37.6	931					
9355	2	-144.88	4*44*31	3/13/65	633	-35.8	297.6	3.9	59.6	49.878	-63.5	4*52*33	8.0	932					
9357	1	165.77	7*59*18	3/13/65	633	-35.6	297.6	3.4	59.6	49.867	-63.8	8*29*33	30.3	932					
9358	1	141.10	9*36*42	3/13/65	633	-35.5	297.5	3.2	59.6	49.861	-52.3	10* 9*33	32.9	932					
9359	2	116.43	11*14* 6	3/13/65	633	-35.4	297.3	3.0	59.6	49.856	-52.4	11*47*58	33.9	932					
9360	2	51.76	12*51*30	3/13/65	633	-35.2	297.2	2.9	59.6	49.851	-51.0	13*26*33	35.1	932					
9369	2	-130.27	3*28* 6	3/14/65	634	-33.7	297.3	0.7	59.5	49.803	-65.6	3*37* 3	9.0	933					
9374	2	106.37	11*35* 5	3/14/65	634	-34.3	298.0	-0.8	59.7	49.777	-47.1	12*12* 3	37.0	933					
9375	2	81.70	13*12*29	3/14/65	634	-35.2	298.3	-0.7	59.9	49.772	-48.5	13*49*33	37.1	933					
9384	2	-140.33	2*49* 5	3/15/65	635	-40.0	303.8	-1.6	62.1	49.726	-64.3	3*59* 3	10.0	934					

HEADOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE					FMR TAPE REEL NO.
ORBIT NO.	GCA STA	SATELLITE ORBITAL		EQUATOR ASCENDING		CROSSING AT NODE (AND)		SPIN		VECTOR		ATTITUDE		BEGIN MINU -TES W/R/T AND	E N D		DROPOUTS, MINUTES W/R/T AND								
		EARTH LONGI (DEG)	LATI (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	DECLI -NA TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AND)	TOT (MIN. AND)	SPIN RATE (DEG /SEC)	HOURS MINUTES SECONDS (GMT)		MINU -YES W/R/T AND	TO-									
9387	1	145.65	8*41*17	3/15/65	635		-41.2	304.5	-1.8	62.6	49.712	-24.4	9*14*33	33.3					934						
9388	3	120.58	10*18*41	3/15/65	635		-41.7	304.8	-1.6	62.7	49.707	-48.6	10*41*33	22.9					934						
9389	2	96.31	11*56*5	3/15/65	635		-41.4	306.3	-2.8	62.8	49.702	-61.5	12*30*33	34.5					934						
9397	1	-101.06	1*55*16	3/16/65	636		-47.3	313.6	-2.2	65.3	49.663	-78.4	1*6*3	10.8					935						
9398	2	-125.73	2*32*40	3/16/65	636		-47.7	314.1	-2.2	65.5	49.658	-74.5	2*40*3	7.4					935						
9399	2	-150.40	4*10*4	3/16/65	636		-48.1	314.7	-2.2	65.7	49.654	-78.3	4*20*33	10.5					935						
9402	1	135.58	9*2*16	3/16/65	636		-49.6	316.1	-1.9	66.2	49.640	-51.2	9*36*33	34.3					935						
9403	2	110.91	10*39*40	3/16/65	636		-50.3	316.9	-1.6	66.4	49.635	-50.0	11*13*3	33.4					935						
9411	1	-86.45	23*38*51	3/16/65	636		-54.2	328.8	-1.4	68.9	49.598	-77.5	23*48*3	9.2					936						
9412	1	-111.12	1*16*15	3/17/65	637		-54.3	329.9	-1.6	69.2	49.594	-75.2	1*78*3	11.8					936						
9413	2	-135.79	2*53*39	3/17/65	637		-54.3	330.9	-1.8	69.4	49.597	-70.8	3*2*3	8.4					936						
9414	2	-160.46	4*31*3	3/17/65	637		-54.4	331.8	-2.0	69.6	49.591	-76.1	4*43*3	12.0					936						
9416	1	150.19	7*45*51	3/17/65	637		-54.7	333.4	-2.2	70.7	49.580	-37.3	8*17*33	31.7					936						
9418	2	100.85	11*6*39	3/17/65	637		-55.4	335.8	-2.0	70.4	49.568	-47.7	11*35*3	34.4					936						
9426	1	-56.51	23*59*50	3/17/65	637		-54.9	349.6	-3.0	72.8	49.522	-76.1	0*11*3	11.2					937						
9427	1	-121.18	1*37*14	3/18/65	638		-54.6	350.5	-3.3	73.0	49.516	-73.1	1*51*33	14.3					937						
9428	2	-145.85	3*14*38	3/18/65	638		-54.2	351.4	-3.6	73.3	49.510	-68.9	3*25*3	10.4					937						
9431	1	140.13	8*6*50	3/18/65	638		-53.8	353.8	-4.2	73.7	49.493	12.4	8*40*33	33.7					937						
9432	2	115.46	9*44*14	3/18/65	638		-53.7	355.1	-4.2	74.0	49.487	-50.2	10*17*3	32.8					937						
9440	1	-81.89	22*43*26	3/18/65	638		-51.9	7.2	-4.0	76.4	49.440	-71.5	22*51*33	8.1					938						
9441	1	-106.57	0*20*50	3/19/65	639		-51.5	8.2	-4.0	76.7	49.434	-75.5	0*32*3	11.2					938						
9442	2	-131.24	1*58*14	3/19/65	639		-51.3	9.0	-4.2	76.9	49.428	-71.5	2*6*3	7.8					938						
9443	2	-155.91	3*35*37	3/19/65	639		-51.0	9.7	-4.2	77.1	49.422	-78.2	3*47*3	11.4					938						
9447	2	105.40	10*5*13	3/19/65	639		-50.4	12.9	-3.9	77.8	49.398	-55.3	10*39*3	33.8					938						
9455	1	-91.56	23*4*25	3/19/65	639		-46.0	22.3	-3.6	80.1	49.350	-78.4	23*1*3	9.6					939						
9456	1	-116.63	0*41*49	3/20/65	640		-45.3	23.0	-3.8	80.4	49.344	-73.8	0*55*3	13.2					939						

READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	CDA STA	SATELLITE		EQUATOR		CROSSING AT		SPIN	VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND		
		EARTH LONGI- TITUDE (DEG)	CALENDAR DATE	HOURS MINUTES SECONDS (GMT)	ASCENDING NODE (LNO)	TURNS DAY	DECLI- -NA- -TION (DEG)		RIGHT ASCEN- -TION (DEG)	MINI- -NUM- -ADIR (DEG)	TOT (MIN. AFTER AND)	MINU- -TES W/R/T AND			HOURS MINUTES SECONDS (GMT)	MINU- -TES W/R/T AND	TO-			
9457	2	-141.30	2*19*13	3/20/65	640	-44.8	23.4	-4.0	80.6	49.338	-70.9	2*28*3	8.8						939	
9459	1	165.35	5*34*0	3/20/65	640	-43.9	24.1	-4.3	81.0	49.326	-73.5	6*5*3	31.1						939	
9462	2	55.34	10*26*12	3/20/65	640	-42.5	25.9	-4.4	81.5	49.308	22.0	11*1*3	34.9						939	
9475	1	134.62	7*32*23	3/21/65	641	-32.5	31.6	-6.9	84.9	49.229	23.4	8*7*3	34.7						940	
9476	2	109.55	9*9*47	3/21/65	641	-31.9	31.9	-7.0	85.0	49.223	24.0	9*42*3	32.8						940	
9477	2	85.28	10*47*11	3/21/65	641	-31.1	32.5	-7.1	85.2	49.217	24.2	11*23*3	35.9						940	
9485	1	-112.07	23*46*23	3/21/65	641	-23.2	34.6	-9.3	87.6	49.168	-24.1	23*59*3	12.7						941	
9487	2	-161.42	3*1*11	3/22/65	642	-21.7	34.3	-10.3	88.0	49.156	-75.6	3*13*33	12.4						941	
9490	1	124.56	7*53*22	3/22/65	642	-19.8	33.9	-11.4	88.4	49.137	-65.1	8*30*33	37.2						941	
9491	2	55.89	9*30*46	3/22/65	642	-19.1	34.1	-11.6	88.6	49.131	-48.3	10*4*33	33.8						941	
9499	1	-57.46	22*29*58	3/22/65	642	-11.2	35.0	-13.9	90.8	49.082	-91.9	22*40*3	10.1						942	
9500	1	-122.15	0*7*22	3/23/65	643	-10.3	34.8	-14.4	91.1	49.076	-75.2	0*21*33	14.2						942	
9501	2	-146.83	1*44*46	3/23/65	643	-9.6	34.5	-14.9	91.2	49.070	-70.9	1*54*3	9.3						942	
9503	1	163.82	4*59*33	3/23/65	643	-8.2	33.9	-15.9	91.6	49.057	-64.2	5*30*33	31.0						942	
9506	2	89.81	9*51*45	3/23/65	643	-6.1	33.6	-16.9	92.0	49.039	-56.1	10*27*33	35.8						942	
9513	1	-82.87	21*13*33	3/23/65	643	1.1	33.8	-19.2	94.0	48.995	-89.4	21*21*33	8.0						943	
9514	1	-107.54	22*50*57	3/23/65	643	2.0	33.5	-19.6	94.3	48.989	-77.2	23*2*3	11.1						943	
9515	2	-132.21	0*28*23	3/24/65	644	3.0	33.0	-20.4	94.5	48.983	-72.4	0*36*3	7.7						943	
9516	2	-156.88	2*5*45	3/24/65	644	3.7	32.7	-20.9	94.7	48.977	-77.2	2*16*33	10.8						943	
9519	1	129.10	6*57*56	3/24/65	644	5.7	31.5	-22.4	95.1	48.958	-51.6	7*33*33	35.6						943	
9520	2	104.42	8*35*20	3/24/65	644	6.5	31.3	-22.8	95.3	48.952	-50.2	9*9*3	33.7						943	
9521	2	79.75	10*12*44	3/24/65	644	7.4	31.3	-23.2	95.5	48.946	-51.9	10*50*3	37.3						943	
9528	1	-52.93	21*34*32	3/24/65	644	14.7	30.5	-26.0	0.2	48.902	-87.0	21*44*3	9.5						944	
9529	1	-117.60	23*11*56	3/24/65	644	15.7	30.1	-26.5	0.4	48.896	-75.5	23*24*33	12.6						944	
9544	2	-127.66	23*32*55	3/25/65	645	28.6	25.3	-33.3	4.1	48.803	-79.9	23*40*3	7.1						945	
9545	2	-152.33	1*10*19	3/26/65	646	28.9	25.0	-33.3	4.2	48.797	-78.7	1*20*3	9.7						945	

ORBIT NO.	CUA STA	READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE					FMR TAPE REEL NO.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		SATELLITE EQUATOR CROSSING AT					SPIN VECTOR ATTITUDE					REGIN	E N D					MINU -TES W/R/T AND	DROPOUTS, MINUTES W/R/T AND																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		EARTH LONGI -TUDE (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	DAY	TURNS	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -NUM NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)		HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	MINU -TES W/R/T AND																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

ORBIT NO.	CCA STA	READOUT				ORBIT										TIME INTERVAL OF FILE ON FMR TAPE				FMR TAPE REEL NO.
		SATELLITE EQUATOR CROSSING AT		SPIN VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	E N U	DROPOUTS, MINUTES										
		ORBITAL LONGI -TIDE (DEG)	ASCENDING CALENDAR DATE	TIROS DAY	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MOM NADIR (DEG)			TOT (MIN. AFTER AND)	MINU -YES W/R/T AND	HOURS MINUTES SECONDS (GMT)	FROM- W/R/T AND	TO- W/R/T AND						
9680	3	116.87	4/ 4/65	655	46.7	8.4	-26.4	11.0	66.710	-60.9	4*41*33	22.4					951			
9681	2	92.20	5*56*31	4/ 4/65	655	46.6	8.4	-26.2	11.0	66.704	-59.8	6*31*33	35.0					951		
9685	1	-105.17	18*55*42	4/ 4/65	655	45.8	8.2	-24.7	10.9	66.654	-77.1	19* 7* 3	11.4					952		
9690	2	-125.84	20*33* 6	4/ 4/65	655	45.7	8.2	-24.5	10.9	66.648	-72.8	20*41*23	8.5					952		
9691	2	-154.51	22*10*30	4/ 4/65	655	45.6	8.2	-24.3	10.9	66.642	-77.0	22*20*33	10.1					952		
9693	3	156.14	1*25*18	4/ 5/65	656	45.5	8.2	-23.9	10.9	66.630	-64.1	1*45* 3	19.8					952		
9694	3	131.47	3* 2*42	4/ 5/65	656	45.4	8.2	-23.7	10.9	66.623	-64.8	3*24* 3	21.4					952		
9695	2	106.79	4*40* 5	4/ 5/65	656	45.3	8.2	-23.5	10.9	66.617	-52.8	5*13*33	33.5					952		
9696	2	82.12	6*17*29	4/ 5/65	656	45.2	8.2	-23.3	10.9	66.611	-44.2	6*54*33	37.1					952		
9704	1	-115.24	19*16*40	4/ 5/65	656	44.4	8.0	-21.9	10.8	66.561	-75.4	19*28*33	11.9					953		
9708	1	146.32	1*46*16	4/ 6/65	657	44.1	7.9	-21.1	10.8	66.536	-6.0	2*18*33	32.3					953		
9709	3	121.65	3*23*40	4/ 6/65	657	44.0	7.9	-20.9	10.8	66.530	-7.5	3*46*33	22.9					953		
9710	3	56.98	5* 1* 4	4/ 6/65	657	43.9	7.9	-20.7	10.8	66.524	-59.6	5*15*33	14.5					953		
9718	1	-100.38	18* C*15	4/ 6/65	657	43.2	7.6	-19.2	10.7	66.474	-47.0	18*10* 3	9.8					954		
9720	2	-149.72	21*15* 3	4/ 6/65	657	43.0	7.6	-18.9	10.7	66.462	-81.5	21*26*33	11.5					954		
9722	1	160.93	0*29*50	4/ 7/65	658	42.9	7.5	-18.5	10.7	66.449	-61.5	1* 7*33	30.7					954		
9723	1	136.26	2* 7*14	4/ 7/65	658	42.8	7.5	-18.3	10.7	66.443	-54.7	2*41*33	34.3					954		
9724	2	111.59	3*44*38	4/ 7/65	658	42.7	7.5	-18.1	10.7	66.437	-50.5	4*17*33	32.9					954		
9725	2	66.92	5*22* 2	4/ 7/65	658	42.6	7.5	-17.9	10.7	66.430	-49.2	5*58*33	36.5					954		
9735	2	-159.78	21*36* 1	4/ 7/65	658	41.8	7.2	-16.0	10.8	66.368	-76.8	21*47*33	11.5					955		
9737	1	150.87	C*50*49	4/ 8/65	659	41.7	7.2	-15.7	10.8	66.356	-61.3	1*22*33	31.7					955		
9738	1	126.20	2*28*12	4/ 8/65	659	41.6	7.1	-15.5	10.8	66.349	-23.6	3* 4*33	36.4					955		
9739	2	101.53	4* 5*36	4/ 8/65	659	41.5	7.1	-15.3	10.8	66.343	-48.2	4*39*33	34.0					955		
9740	2	76.86	5*43* 0	4/ 8/65	659	41.4	7.1	-15.1	10.8	66.337	-51.3	6*21*33	38.6					955		
9749	2	-145.16	20*19*35	4/ 8/65	659	40.7	6.8	-13.4	10.8	66.281	-71.5	20*29*33	10.0					956		
9754	2	51.47	4*20*34	4/ 9/65	660	40.4	6.7	-12.5	10.9	66.249	-30.5	5* 1*33	35.0					956		

READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE									
ORBIT NO.	CCA STA	SATELLITE EQUATOR CROSSING AT			SPIN VECTOR			ATTITUDE			SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES		FMR TAPE REEL NO.											
		EARTH LONGI (DEG)	ORBITAL ASCENDING NODE (ANO)	TIRUS CALENDAR DATE	HOURS MINUTES SECONDS (GMT)	DECL -NA (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER ANO)	MINU -TES W/R/T AND			HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM -	TO -													
9763	2	-130.55	19* 3* 9	4/ 9/65	660	39.7	6.4	-10.8	10.9	66.193	19* 9*33	-75.8	19* 9*33	6.4				957											
9764	2	-155.22	20*4*33	4/ 9/65	660	39.7	6.4	-10.7	10.0	66.187	20*51*33	-78.0	20*51*33	11.0				957											
9768	2	106.09	3*10* 9	4/10/65	661	39.4	6.4	-9.9	11.0	66.162	3*43*33	-40.6	3*43*33	33.4				957											
9769	2	81.41	4*47*33	4/10/65	661	39.4	6.4	-9.7	11.0	66.156	5*24*33	-51.9	5*24*33	37.0				957											
9776	1	-91.27	16* 9*20	4/10/65	661	38.9	6.1	-8.4	11.2	66.112	16*18* 3	-86.9	16*18* 3	8.7				958											
9777	1	-115.94	17*46*44	4/10/65	661	38.8	6.1	-8.3	11.2	66.105	17*59*33	-75.6	17*59*33	12.8				958											
9778	2	-140.61	19*24* 7	4/10/65	661	38.8	6.1	-8.1	11.2	66.099	19*36*33	-71.7	19*36*33	12.4				958											
9783	2	56.03	3*31* 7	4/11/65	662	38.5	6.0	-7.2	11.3	66.038	4* 5*33	-62.6	4* 5*33	34.4				958											
9792	2	-126.00	18* 7*42	4/11/65	662	38.0	5.7	-5.6	11.4	66.011	18*14*33	-68.4	18*14*33	6.9				959											
9793	2	-150.67	19*45* 5	4/11/65	662	37.9	5.7	-5.4	11.4	66.005	19*57*33	-78.8	19*57*33	12.5				959											
9798	2	85.97	3*52* 5	4/12/65	663	37.7	5.6	-4.5	11.5	65.974	5*28*33	-59.3	5*28*33	36.5				959											
9805	1	-86.72	15*13*52	4/12/65	663	37.2	5.4	-3.2	11.6	65.930	15*23* 3	-83.9	15*23* 3	9.2				960											
9806	1	-111.39	16*51*16	4/12/65	663	37.2	5.4	-3.1	11.6	65.923	17* 3* 3	-77.8	17* 3* 3	11.8				960											
9807	1	-136.06	18*28*39	4/12/65	663	37.2	5.4	-2.9	11.6	65.917	18*35*33	-72.3	18*35*33	6.9				960											
9808	2	-160.73	20* 6* 3	4/12/65	663	37.1	5.4	-2.7	11.6	65.911	20*18*33	-1.8	20*18*33	12.5				960											
9810	3	149.92	23*20*51	4/12/65	663	37.1	5.4	-2.4	11.7	65.898	23*40*33	-56.8	23*40*33	19.7				960											
9812	2	100.50	2*35*39	4/13/65	664	37.0	5.4	-2.0	11.7	65.886	3* 9*33	-47.7	3* 9*33	33.9				960											
9822	2	-146.10	18*49*37	4/13/65	664	36.5	5.1	-0.3	12.0	65.823	19* 3*14	-66.8	19* 3*14	13.6				961											
9826	3	115.21	1*19*13	4/14/65	665	36.3	5.1	0.4	12.1	65.798	1*42*33	-36.7	1*42*33	23.3				961											
9839	1	154.50	22*25*23	4/14/65	665	35.8	4.9	2.6	12.4	65.716	22*56*33	-30.8	22*56*33	31.2				962											
9840	1	129.83	6* 2*53	4/15/65	666	35.8	4.8	2.8	12.3	65.710	0*37*33	-53.6	0*37*33	34.7				962											
9849	1	-92.20	14*39*11	4/15/65	666	35.8	5.2	4.3	12.8	65.653	14*47*33	-88.4	14*47*33	8.2				963											
9850	1	-116.87	16*16*45	4/15/65	666	35.8	5.2	4.5	12.9	65.667	16*29*33	-77.2	16*29*33	12.8				963											
9855	3	119.77	0*23*44	4/16/65	667	35.8	5.4	5.3	13.1	65.615	0*46*33	-47.1	0*46*33	22.8				963											
9864	1	-102.25	15* 6*19	4/16/65	667	36.3	6.0	6.5	13.7	65.558	15* 9*33	-42.7	15* 9*33	9.2				964											
9865	1	-126.92	16*37*43	4/16/65	667	36.4	6.1	6.7	13.8	65.552	16*52*33	-74.8	16*52*33	14.8				964											

READOUT															ORBIT										TIME INTERVAL OF FILE ON FMR TAPE					FMR TAPE REEL NO.
ORBIT NO.	CLA STA	SATELLITE EQUATOR CROSSING AT				SPIN		VECTOR		ATTITUDE		SPIN RATE (DEG /SEC)	BEGIN	E N D		DROPOUTS, MINUTES														
		EARTH LONGI (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -NUM NADIR (DEG)	TOT (MIN. ANO)	MINU -TES W/R/T ANO	HOURS MINUTES SECONDS (GMT)			MINU -TES W/R/T ANO	FROM-	TO-														
9869	1	134.39	23* 7*18	4/16/65	667	36.5	6.2	7.2	14.0	65.527	-36.1	23*41*33	34.3				964													
9879	1	-112.30	15*21*17	4/17/65	668	41.5	10.5	6.4	15.0	65.464	-77.3	15*36*33	15.3				965													
9883	1	149.01	21*50*52	4/17/65	668	41.7	10.7	7.0	16.2	65.438	-35.0	22*23* 3	32.2				965													
9884	1	124.33	23*28*16	4/17/65	668	41.7	10.7	7.1	16.2	65.432	-48.4	0* 7*33	39.3				965													
9885	3	59.67	1* 5*40	4/18/65	669	41.8	10.8	7.2	16.3	65.426	-45.0	1*31*33	25.9				965													
9893	1	-57.69	14* 4*50	4/18/65	669	42.2	11.6	8.0	16.8	65.375	-78.3	14*15* 3	10.2				966													
9894	1	-122.36	15*42*14	4/18/65	669	42.2	11.6	8.1	16.8	65.369	-4.2	15*58*33	16.3				966													
9898	1	138.95	22*11*50	4/18/65	669	42.3	11.8	8.4	17.2	65.344	-18.3	22*45* 3	33.2				966													
9908	1	-107.74	14*25*48	4/19/65	670	42.8	12.8	9.3	17.8	65.280	-79.0	14*40*33	14.8				967													
9912	1	153.57	20*55*23	4/19/65	670	42.8	13.0	9.7	18.0	65.255	-35.4	21*27* 3	31.7				967													
9913	1	128.90	22*32*47	4/19/65	670	42.9	13.1	9.8	18.1	65.249	-52.9	23* 8*33	35.8				967													
9914	3	104.23	0*10*11	4/20/65	671	42.9	13.1	9.8	18.1	65.242	21.9	0*34*33	24.4				967													
9922	1	-93.17	13* 9*22	4/20/65	671	43.2	14.0	10.5	18.7	65.192	-86.0	13*19* 3	9.7				968													
9923	1	-117.84	14*46*45	4/20/65	671	43.2	14.1	10.6	18.7	65.185	-74.4	14*59*33	12.8				968													
9927	1	143.47	21*16*21	4/20/65	671	43.3	14.3	10.9	19.0	65.160	20.9	21*50* 3	33.7				968													
9937	1	-103.23	13*30*19	4/21/65	672	43.7	15.3	11.5	19.7	65.097	-87.4	13*39*33	9.2				969													
9941	1	158.08	19*59*54	4/21/65	672	43.8	15.5	11.7	20.0	65.072	-41.8	20*31* 3	31.2				969													
9942	1	133.41	21*37*18	4/21/65	672	43.9	15.5	11.7	20.0	65.065	-54.0	22*11*33	34.3				969													
9952	1	-113.28	13*51*16	4/22/65	673	46.1	22.6	11.3	21.9	65.002	-75.5	14* 4* 3	12.8				970													
9956	1	148.03	20*20*52	4/22/65	673	46.7	24.3	11.2	22.4	64.977	-38.8	20*54* 3	33.2				970													
9957	1	123.36	21*58*15	4/22/65	673	46.9	24.9	11.1	22.6	64.970	-51.8	22*34*33	36.3				970													
9958	3	58.69	23*35*39	4/22/65	673	47.2	25.6	10.9	22.7	64.964	-47.0	0* 1*58	26.3				970													
9966	1	-58.67	12*34*50	4/23/65	674	47.5	33.1	10.6	24.6	64.913	-46.5	12*46* 3	11.2				971													
9970	1	162.64	19* 4*25	4/23/65	674	47.2	35.1	10.9	25.2	64.888	-47.9	19*34*33	30.1				971													
9971	1	137.57	20*41*49	4/23/65	674	47.3	35.5	10.9	25.3	64.882	-53.7	21*15*33	33.7				971													
9981	1	-108.72	12*55*47	4/24/65	675	45.6	44.0	11.0	27.4	64.818	-74.6	13* 6*33	10.8				972													

READOUT										ORBIT										TIME INTERVAL OF FILE ON FMR TAPE										FMR TAPE REFL NO.	
ORBIT NO.	CCA STA	SATELLITE EQUATOR CROSSING AT			SPIN		VECTOR		ATTITUDE		BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND																
		EARTH LONGI (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TIROS DAY	DECLI -NA (DEG)	RIGHT ASCEN (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)		MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM--	TO--															
9985	1	152.59	19*25*22	4/24/65	675	44.8	45.6	11.5	27.9	64.793	-40.5	19*57*3	31.7																		972
9986	1	127.52	21* 2*46	4/24/65	675	44.7	46.1	11.5	28.1	64.787	-48.9	21*38*33	35.8																		972
9995	1	-94.11	11*39*20	4/25/65	676	41.6	52.6	11.8	30.0	64.730	-88.9	11*47*33	8.2																		973
9996	1	-118.77	13*10*44	4/25/65	676	41.1	53.0	12.0	30.2	64.723	-68.3	13*29*33	12.8																		973
9999	1	167.20	18* 8*56	4/25/65	676	40.1	53.7	12.6	30.7	64.704	-47.9	18*39*33	30.6																		973
10001	3	117.86	21*23*43	4/25/65	676	39.7	54.5	12.7	31.0	64.691	-53.2	21*46*58	23.3																		973
10014	1	157.15	18*29*53	4/26/65	677	32.7	59.5	14.9	33.6	64.609	-40.1	19* 0*33	30.7																		974
10015	1	132.48	20* 7*17	4/26/65	677	32.4	59.7	15.1	33.7	64.603	-53.9	20*42*33	35.3																		974
10024	1	-89.58	10*43*51	4/27/65	678	26.7	63.2	16.3	35.7	64.546	-66.3	10*52*33	8.7																		975
10025	1	-114.25	12*21*15	4/27/65	678	26.0	63.2	16.6	35.9	64.539	-65.8	12*33*33	12.3																		975
10029	1	147.66	18*50*50	4/27/65	678	23.9	63.0	17.9	36.6	64.514	-58.3	19*23*33	32.7																		975
10044	1	137.00	19*11*47	4/28/65	679	4.0	64.3	21.6	39.5	64.419	-51.9	19*45*33	33.8																		976
10058	1	151.62	17*55*20	4/29/65	680	5.7	65.0	24.1	42.1	64.330	-44.5	18*27*33	32.2																		977
10068	1	-55.68	10* 9*18	4/30/65	681	4.5	65.3	22.7	43.0	64.267	-66.3	10*18*33	9.3																		978
10073	1	141.56	18*16*17	4/30/65	681	3.9	65.2	22.1	43.3	64.235	-8.9	18*49*33	33.3																		978
10074	3	116.89	19*53*41	4/30/65	681	3.8	65.2	22.0	43.4	64.229	-51.6	20*16*33	22.9																		978
10088	1	121.51	18*37*14	5/ 1/65	682	2.7	65.4	19.6	44.4	64.140	-26.0	19*12*33	35.3																		979
10089	3	106.84	20*14*38	5/ 1/65	682	2.6	65.5	19.4	44.4	64.134	-49.0	20*39*33	24.9																		979
10098	1	-115.19	10*51*12	5/ 2/65	683	2.0	65.8	17.6	44.9	64.077	-75.9	11* 3*33	12.4																		980
10102	1	146.12	17*20*47	5/ 2/65	683	1.8	65.7	16.9	45.1	64.051	-44.9	17*53*33	32.8																		980
10132	1	125.81	18* 2*40	5/ 4/65	685	-0.2	66.2	11.3	46.8	63.862	-29.8	18*39*33	36.9																		981
10133	3	101.14	19*40* 4	5/ 4/65	685	-0.3	66.2	11.1	46.9	63.855	-44.0	20* 5*33	25.5																		981
10145	1	165.08	15* 8*49	5/ 5/65	686	-1.1	66.3	8.8	47.6	63.779	-42.2	15*39*33	30.7																		982
10146	1	140.41	16*46*13	5/ 5/65	686	-1.1	66.4	8.6	47.6	63.773	7.5	17*20*33	34.3																		982
10160	1	155.02	15*29*46	5/ 6/65	687	-1.7	66.5	5.7	48.3	63.685	-10.9	16* 1*33	31.8																		983
10161	1	130.35	7* 7*10	5/ 6/65	687	-1.7	66.5	5.5	48.3	63.678	-51.0	17*42*33	35.4																		983

READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE						FMR TAPE REEL NO.
ORBIT NO.	CUA STA	SATELLITE ORBITAL		EQUATOR ASCENDING		CROSSING AT NODE (AND)		SPIN		VECTOR		ATTITUDE		BEGIN MINU -TES W/R/T AND	E N D		DROPOUTS, MINUTES W/R/T AND			
		EARTH LONGI (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	TURNS DAY	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND		FROM-	TO-				
10175	1	144.55	15*55*42	5/ 7/65	688	-2.2	66.7	2.6	49.0	63.590	-56.3	16*23*33	32.9				984			
10176	1	120.28	17*28* 6	5/ 7/65	688	-2.2	66.7	2.4	49.1	63.584	-50.4	17*51*33	23.5				984			
10177	3	55.61	19* 5*30	5/ 7/65	688	-2.3	66.7	2.2	49.1	63.577	-61.1	19*31*33	26.1				984			
10189	4	159.56	14*34*15	5/ 3/65	689	-2.5	66.9	-0.4	49.5	63.502	-41.1	15* 5*33	31.3				985			
10190	1	134.89	16*11*39	5/ 8/65	689	-2.6	66.9	-0.6	49.6	63.495	-53.0	16*46* 3	34.4				985			
10204	1	145.49	14*55*11	5/ 9/65	690	-2.8	67.0	-3.6	50.2	63.407	-44.0	15*27*33	32.4				986			
10219	1	139.42	15*16* 8	5/13/65	691	-2.9	67.2	-6.9	50.9	63.313	-49.3	15*49*33	33.4				987			
10220	3	114.75	16*53*31	5/11/65	691	-3.0	67.2	-7.1	50.9	63.306	-50.5	17*16*33	23.0				987			
10229	1	-107.04	7*30* 5	5/11/65	692	-3.0	67.2	-9.0	51.2	63.250	-67.1	7*40*33	10.5				988			
10248	1	144.22	14*20*36	5/12/65	693	-3.1	67.2	-13.0	52.0	63.130	-2.2	14*53*33	33.0				989			
10264	3	105.49	16*18*50	5/13/65	694	-3.2	67.1	-16.3	52.6	63.030	-46.1	16*43*33	24.6				990			
10277	1	148.78	13*25* 5	5/14/65	695	-3.1	67.0	-18.9	53.1	62.940	-57.8	13*57*33	32.5				991			
10279	3	55.44	16*39*52	5/14/65	695	-3.1	67.0	-19.3	53.2	62.936	-46.7	17* 6*33	26.7				991			
10307	1	128.67	14* 6*57	5/16/65	697	-3.6	66.1	-24.2	54.3	62.761	-56.0	14*42*33	35.6				992			
10308	3	104.30	15*44*20	5/16/65	697	-3.8	66.1	-24.2	54.4	62.755	-48.3	16* 9*33	25.2				992			
10335	1	157.88	11*34* 1	5/18/65	699	-9.6	64.5	-24.7	56.8	63.586	12.4	12* 6*33	32.5				993			
10365	1	137.77	12*16*45	5/23/65	701	-15.7	63.0	-24.8	59.3	62.400	-32.1	12*50*33	33.8				994			
10409	1	132.27	11*42*11	5/23/65	704	-28.3	63.8	-21.7	64.2	62.128	-37.1	12*17*33	35.4				995			
10424	1	122.22	12* 3*12	5/24/65	705	-33.8	68.0	-19.7	66.6	62.036	-57.3	12*41*33	38.4				996			
10437	1	161.50	9* 5*22	5/25/65	706	-33.7	68.0	-20.8	67.4	61.956	-21.6	9*40*33	31.2				997			
10430	1	136.83	10*46*45	5/25/65	706	-33.7	68.0	-20.9	67.4	61.950	-52.7	11*20*33	33.8				997			
10447	1	-85.20	1*23*20	5/26/65	707	-33.7	68.0	-21.6	68.0	61.895	-92.6	1*31*33	8.2				998			
10448	1	-109.86	3* 0*44	5/26/65	707	-33.7	68.0	-21.6	68.1	61.889	-77.0	3*11*33	10.8				998			
10452	1	151.44	9*30*19	5/26/65	707	-33.7	67.8	-21.9	68.3	61.864	-25.3	10* 2*33	32.2				998			
10453	1	126.77	11* 7*43	5/26/65	707	-33.7	67.8	-22.0	68.3	61.858	-52.1	11*43*33	35.8				998			
10454	3	102.11	12*45* 7	5/26/65	707	-33.7	67.8	-22.0	68.4	61.852	-48.7	13*10*33	25.4				998			

READOUT										ORBIT						TIME INTERVAL OF FILM ON FMR TAPE					
ORBIT NO.	CUA STA	SATELLITE EQUATOR CROSSING AT				SPIN VECTOR		ATTITUDE		BEGIN	E N D		DROPOUTS, MINUTES W/R/T AND		FMR TAPE REEL NO.						
		ORBITAL ASCENDING NODE (AQU)	TIROS	DATE	TIME (GMT)	DECLI -NADIR (DEG)	RIGHT ASCEN -SION (DEG)	MINI -HUM NADIR (DEG)	TOT (MIN. AFTER AND)		SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND		TO-					
10463	1	-115.92	3*21*41	5/27/65	708	-33.7	67.6	-22.5	68.8	61.797	-70.6	3*34*33	12.9			999					
10483	3	106.66	11*49*58	5/28/65	709	-33.8	66.9	-23.3	69.8	61.675	-46.6	12*14*33	24.9			1000					
10491	1	-50.69	0*48*49	5/29/65	710	-33.8	66.7	-23.6	70.3	61.626	-66.2	0*58*3	9.2			1001					
10492	1	-115.36	2*26*13	5/29/65	710	-33.8	66.7	-23.6	70.4	61.620	-75.5	2*39*3	12.8			1001					
10496	1	145.55	8*55*48	5/29/65	710	-33.8	66.5	-23.7	70.6	61.596	-59.0	9*29*3	33.3			1001					
10510	1	160.57	7*39*22	5/30/65	711	-33.8	66.0	-24.1	71.3	61.511	-30.4	8*10*33	31.2			1002					
10511	1	135.93	9*16*46	5/30/65	711	-33.8	66.0	-24.1	71.4	61.505	-52.8	9*52*3	35.3			1002					
10520	1	-86.12	23*53*21	5/30/65	711	-33.9	65.7	-24.2	71.8	61.450	-65.5	0*2*33	9.2			1003					
10525	1	150.52	8*0*20	5/31/65	712	-33.9	65.5	-24.3	72.2	61.420	-30.2	0*34*3	33.7			1003					
10526	1	125.85	5*37*44	5/31/65	712	-33.9	65.5	-24.3	72.2	61.414	-50.5	10*13*33	35.8			1003					
10535	1	-56.18	1*14*17	6/1/65	713	-33.4	64.7	-24.9	72.5	61.360	-22.4	0*23*33	9.3			1004					
10536	1	-120.65	1*51*42	6/1/65	713	-33.6	64.8	-24.8	72.6	61.354	-75.9	2*7*3	15.4			1004					
10540	1	140.43	8*21*18	6/1/65	713	-33.7	65.1	-24.6	72.9	61.330	-56.9	8*56*3	34.8			1004					
10541	3	115.76	5*58*41	6/1/65	713	-33.8	65.3	-24.5	73.0	61.324	-51.4	10*22*33	23.9			1004					
10550	1	-116.26	1*35*16	6/2/65	714	-33.3	69.3	-24.5	74.6	61.270	-77.9	0*46*3	10.8			1005					
10554	1	155.04	7*4*51	6/2/65	714	-32.9	69.6	-24.8	74.9	61.246	-39.6	7*37*3	32.2			1005					
10555	1	130.37	8*42*15	6/2/65	714	-33.0	69.8	-24.8	75.0	61.244	-51.3	9*18*3	35.8			1005					
10565	1	144.99	7*25*49	6/3/65	715	-30.8	73.8	-25.6	77.1	61.157	-7.2	8*0*3	34.2			1006					
10570	3	120.32	9*3*13	6/3/65	715	-30.8	74.0	-25.6	77.2	61.151	-49.8	9*27*3	23.8			1006					
10579	1	-101.70	23*39*48	6/3/65	715	-28.5	77.2	-26.0	78.7	61.095	-66.3	23*50*3	10.3			1007					
10583	1	159.61	6*9*23	6/4/65	716	-27.5	77.1	-26.7	79.1	61.070	-38.1	6*41*3	31.7			1007					
10584	1	134.94	7*46*47	6/4/65	716	-27.4	77.1	-26.8	79.2	61.064	-50.4	8*22*3	35.3			1007					
10593	1	-87.08	22*23*21	6/4/65	716	-24.6	79.7	-27.4	80.7	61.008	-88.4	22*32*33	9.2			1008					
10594	1	-111.76	0*0*45	6/5/65	717	-24.2	79.7	-27.6	80.8	61.001	-75.5	0*13*3	12.3			1008					
10609	1	-121.81	0*21*43	6/6/65	718	-19.0	81.0	-29.7	83.0	60.909	-75.2	0*35*33	13.8			1009					
10612	1	164.17	5*13*54	6/6/65	718	-18.0	80.5	-30.5	83.2	60.891	-48.7	5*44*33	30			1009					

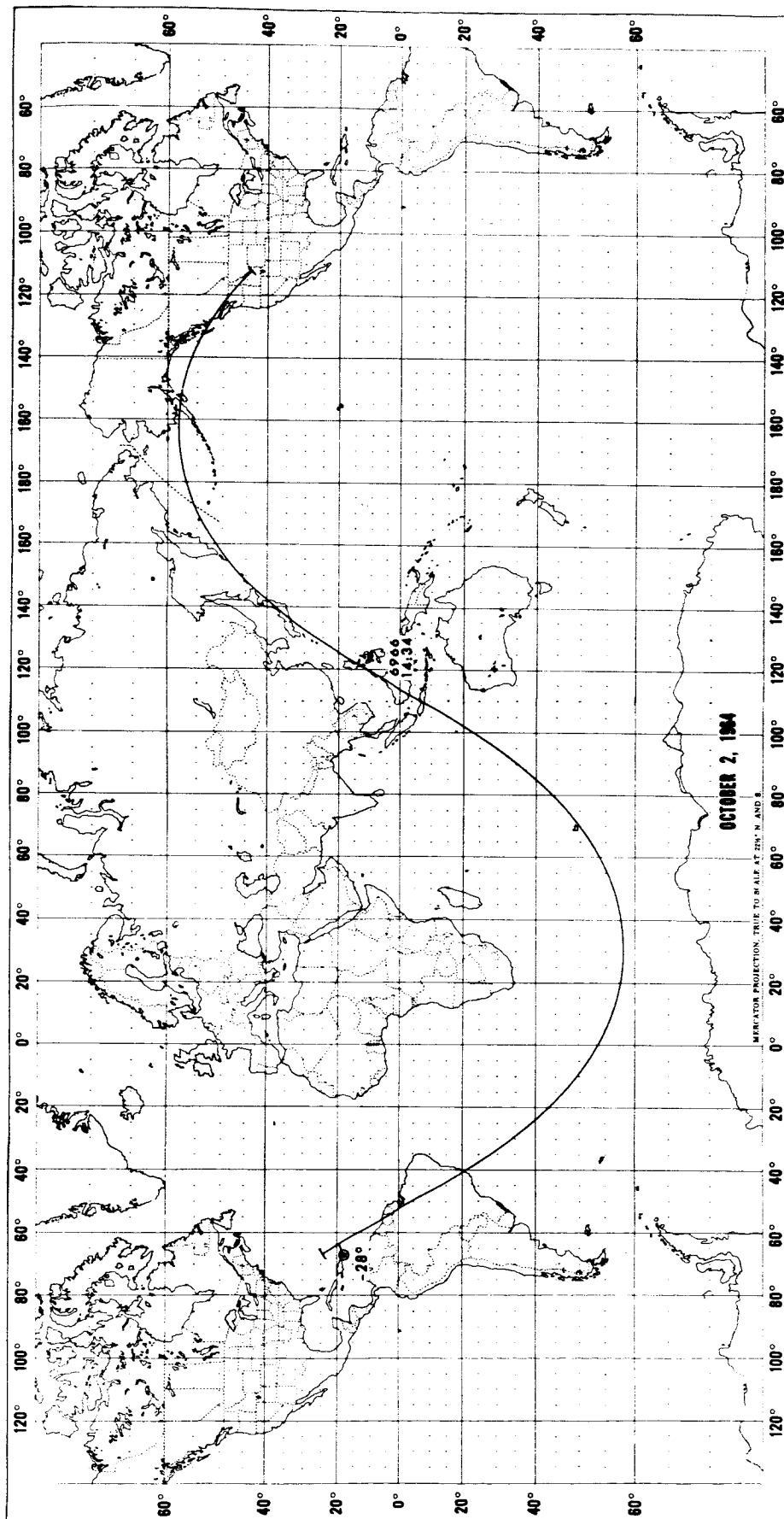
READOUT										ORBIT					TIME INTERVAL OF FILE ON FMR TAPE							FMR TAPE REEL NO.
ORBIT NO.		CDA STA		SATELLITE EQUATOR CROSSING AT			SPIN VECTOR		ATTITUDE			SPIN RATE (DEG /SEC)	BEGIN	E N D			DROPOUTS, MINUTES W/R/T AND					
				ORBITAL LONGI -TUD (DEG)	ASCENDING NODE (ANO)	TIROS DAY	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -NUM (DEG)	TOT (MIN. AND)	MINU -TES W/R/T AND			HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM-	TO-					
10627	1	154.12	5*34*52	6/ 7/65	719	-13.3	80.7	-32.3	85.1	60.800	-33.5	6* 6*33	31.7							1010		
10628	1	129.44	7*12*15	6/ 7/65	719	-13.3	80.6	-32.2	85.1	60.794	-51.2	7*47*33	35.3							1010		
10629	3	104.77	8*49*39	6/ 7/65	719	-13.3	80.6	-32.1	85.2	60.788	-45.6	9*14*33	24.9							1010		
10637	1	-92.58	21*48*50	6/ 7/65	719	-13.2	80.0	-31.3	85.6	60.740	-34.5	21*57*33	8.7							1011		
10638	1	-117.25	23*26*14	6/ 7/65	719	-13.3	79.9	-31.2	85.7	60.734	-75.9	23*38*33	12.3							1011		
10642	1	144.06	5*55*49	6/ 8/65	720	-13.3	79.6	-30.7	85.8	60.710	-58.7	6*29* 3	33.2							1011		
10652	1	-102.63	22* 9*48	6/ 8/65	720	-13.3	78.8	-29.5	86.2	60.624	-6.3	22*20* 3	10.3							1012		
10656	1	158.68	4*39*23	6/ 9/65	721	-13.3	78.5	-29.1	86.3	60.597	-39.9	5*10*33	31.2							1012		
10657	1	134.01	6*16*47	6/ 9/65	721	-13.3	78.5	-29.0	86.4	60.591	-53.3	6*51*33	34.8							1012		
10658	3	109.34	7*54*11	6/ 9/65	721	-13.3	78.4	-28.9	86.4	60.584	0.9	8*18*33	24.4							1012		
10671	1	148.62	5* 0*21	6/10/65	722	-12.8	77.9	-27.4	87.1	60.498	-44.5	5*33*33	33.2							1013		
10681	1	-98.07	21*14*19	6/10/65	722	-12.4	77.6	-26.2	87.7	60.431	-92.9	21*25* 3	10.7							1014		
10686	1	138.57	5*21*18	6/11/65	723	-12.4	77.3	-25.5	87.9	60.397	-57.2	5*56* 3	34.8							1014		
10695	1	-83.45	19*57*52	6/11/65	723	-12.6	77.0	-24.0	88.3	60.337	-68.2	20* 6*33	8.7							1015		
10696	1	-108.12	21*35*16	6/11/65	723	-12.7	76.9	-23.8	88.3	60.330	-76.2	21*46*33	11.3							1015		
10700	1	153.19	4* 4*51	6/12/65	724	-12.8	76.8	-23.1	88.4	60.304	-40.5	4*37*33	32.7							1015		
10701	1	128.52	5*42*15	6/12/65	724	-12.8	76.7	-23.0	88.5	60.297	-52.3	6*18*33	36.3							1015		
10710	1	-53.50	20*18*50	6/12/65	724	-13.0	76.4	-21.4	88.9	60.236	-66.8	20*28* 3	9.2							1016		
10711	1	-118.17	21*56*13	6/12/65	724	-13.0	76.4	-21.2	88.9	60.230	-74.6	22* 9*33	13.3							1016		
10716	3	118.46	6* 3*13	6/13/65	725	-13.1	76.2	-20.4	89.1	60.196	-51.8	6*26*33	23.3							1016		
10729	1	157.76	3* 9*22	6/14/65	726	-13.3	75.8	-18.1	89.5	60.109	-48.9	3*40*33	31.2							1017		
10730	1	133.08	4*46*46	6/14/65	726	-13.3	75.8	-17.9	89.5	60.102	-52.5	5*21*33	34.8							1017		
10740	1	-113.61	21* 0*45	6/14/65	726	-13.5	75.5	-16.1	89.9	60.035	-25.2	21*15*33	14.8							1018		
10744	3	147.70	3*30*20	6/15/65	727	-13.5	75.4	-15.4	90.1	60.008	-39.0	3*50*33	20.2							1018		
10745	3	123.03	5* 7*44	6/15/65	727	-13.6	75.4	-15.2	90.2	60.002	-63.0	5*30*33	22.8							1018		
10754	1	-58.99	19*44*18	6/15/65	727	-13.6	75.2	-13.6	90.5	59.941	-48.5	19*53*33	9.3							1019		

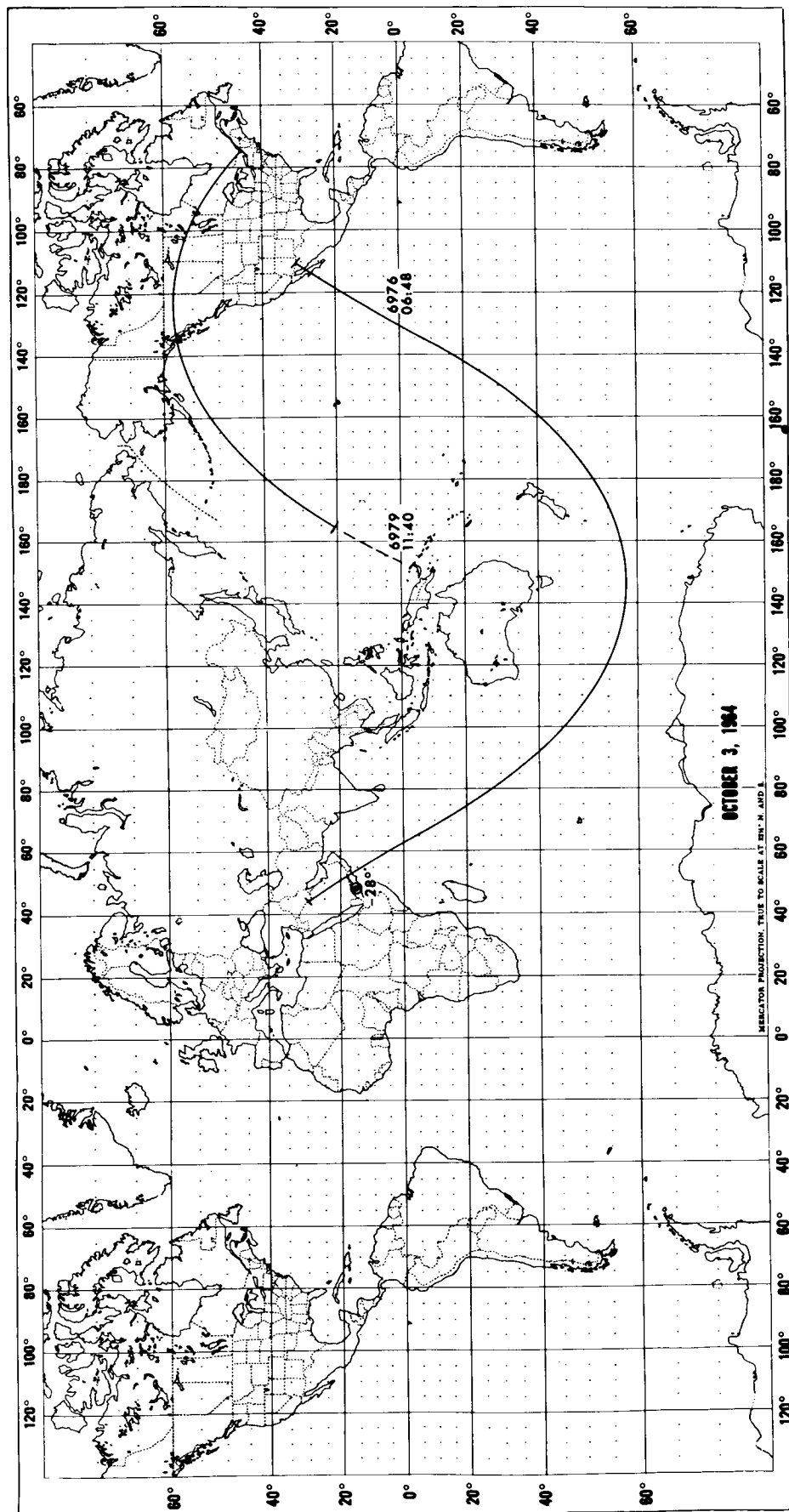
READOUT										ORBIT				TIME INTERVAL OF FILE ON FMR TAPE				FMR TAPE REEL NO.
ORBIT NO.	CDA STA	SATELLITE EQUATOR CROSSING AT				SPIN		VECTOR		ATTITUDE		BEGIN	E N D		DROPOUTS, MINUTES W/R/T AND			
		CRITICAL ASCENDING		NODE (ANO)		DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)	MINI -HUM NADIR (DEG)	TOT (MIN. AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND		HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM- W/R/T AND	TO- W/R/T AND		
		EARTH LONGI -TIDE (DEG)	HOURS MINUTES SECONDS (GMT)	CALENDAR DATE	DAY												TIROS	
10760	3	112.58	5*28*41	6/16/65	728	-13.7	75.0	-12.5	90.7	59.901	-51.7	5*51*33	22.9				1019	
10774	1	127.59	4*12*15	6/17/65	729	-13.3	74.8	-10.0	91.2	59.808	-45.2	4*47*33	35.3				1020	
10784	1	-119.69	20*26*13	6/17/65	729	-4.7	75.1	-12.7	93.7	59.742	-80.4	20*39*33	13.3				1021	
10787	1	166.89	1*18*25	6/18/65	730	-4.4	75.0	-12.3	93.8	59.722	-47.6	1*48*33	30.1				1021	
10788	1	142.21	2*55*49	6/18/65	730	-4.3	75.0	-12.2	93.9	59.715	-14.8	3*28*33	32.7				1021	
10789	3	117.54	4*33*12	6/18/65	730	-4.3	74.9	-12.0	93.9	59.709	-51.2	4*56*33	23.4				1021	
10796	1	-104.48	19* 9*47	6/18/65	730	-3.7	75.0	-10.5	94.4	59.650	-73.1	19*19*33	9.8				1022	
10803	1	132.16	3*16*46	6/19/65	731	-3.8	74.8	-9.5	94.5	59.617	-31.9	3*51*33	34.8				1022	
10864	3	167.49	4*54*10	6/19/65	731	-3.8	74.8	-9.3	94.6	59.610	-46.0	5*18*33	24.4				1022	
10812	1	-89.86	17*53*20	6/19/65	731	-3.9	74.6	-7.7	94.8	59.558	-89.3	18* 3* 3	9.7				1023	

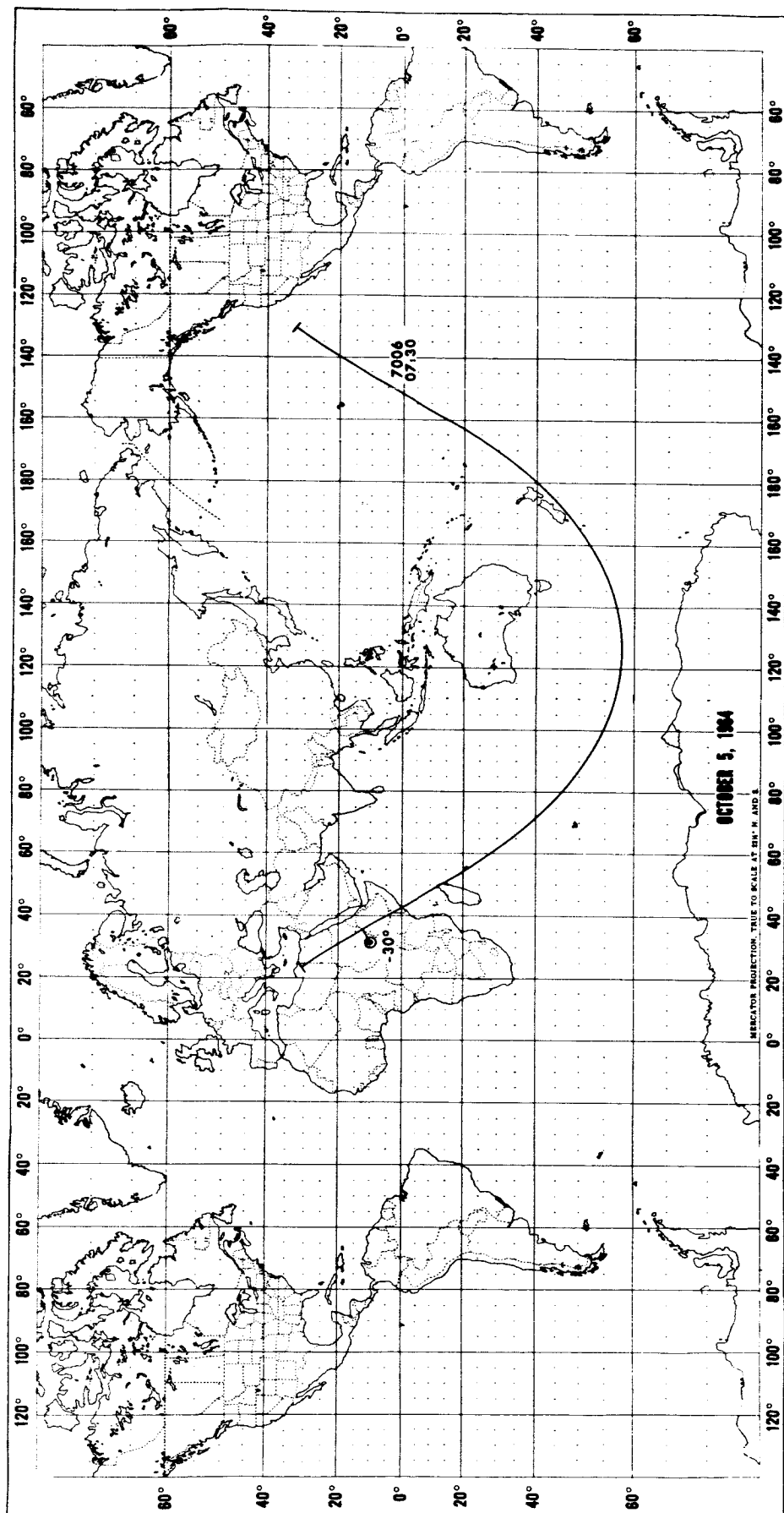
APPENDIX B

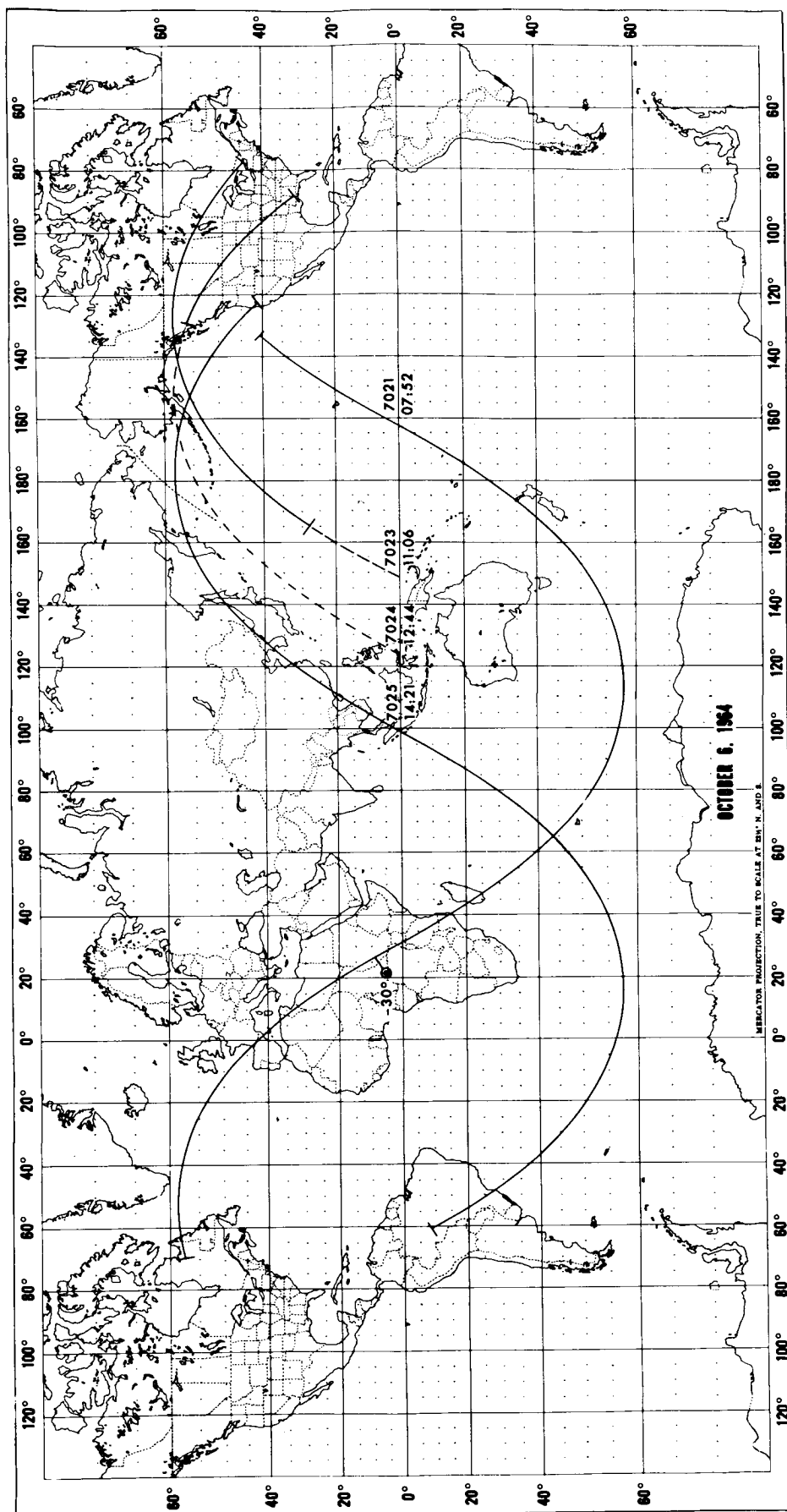
SUBPOINT TRACK SUMMARY OF AVAILABLE RADIATION DATA

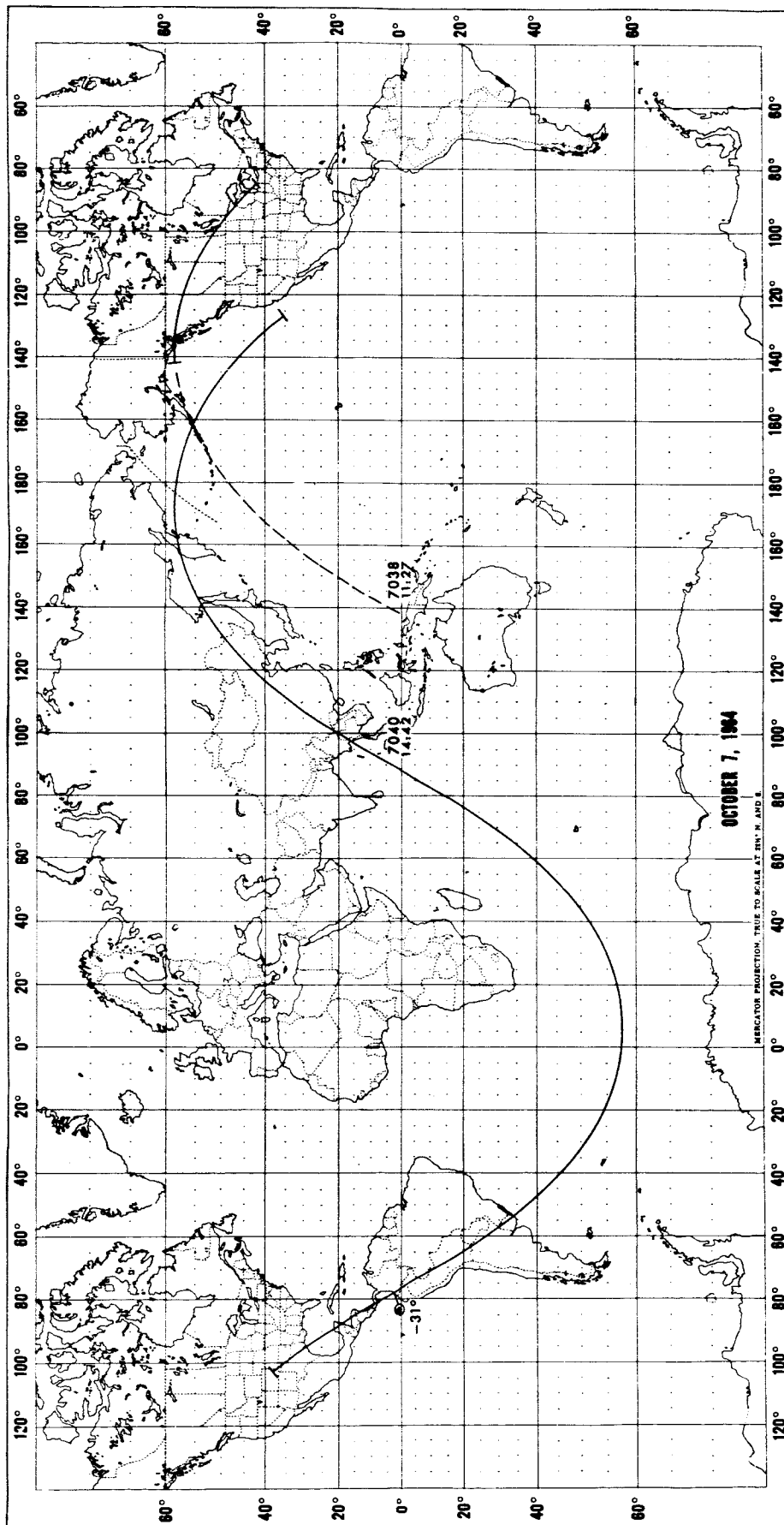
In this section, the time interval for which radiation data are available on the FMR Tapes for TIROS VII from October 1, 1964 to June 19, 1965 is summarized diagrammatically by means of subpoint tracks for each interrogation day. As discussed previously, an interrogation day may be contained within the calendar day, or it may consist of 2 calendar days. This method of presentation enables the data user to quickly appraise the orbits containing data in an area of interest. Additional information illustrating the use of the Subpoint Track Summaries is explained in Appendix B, Volume 1.

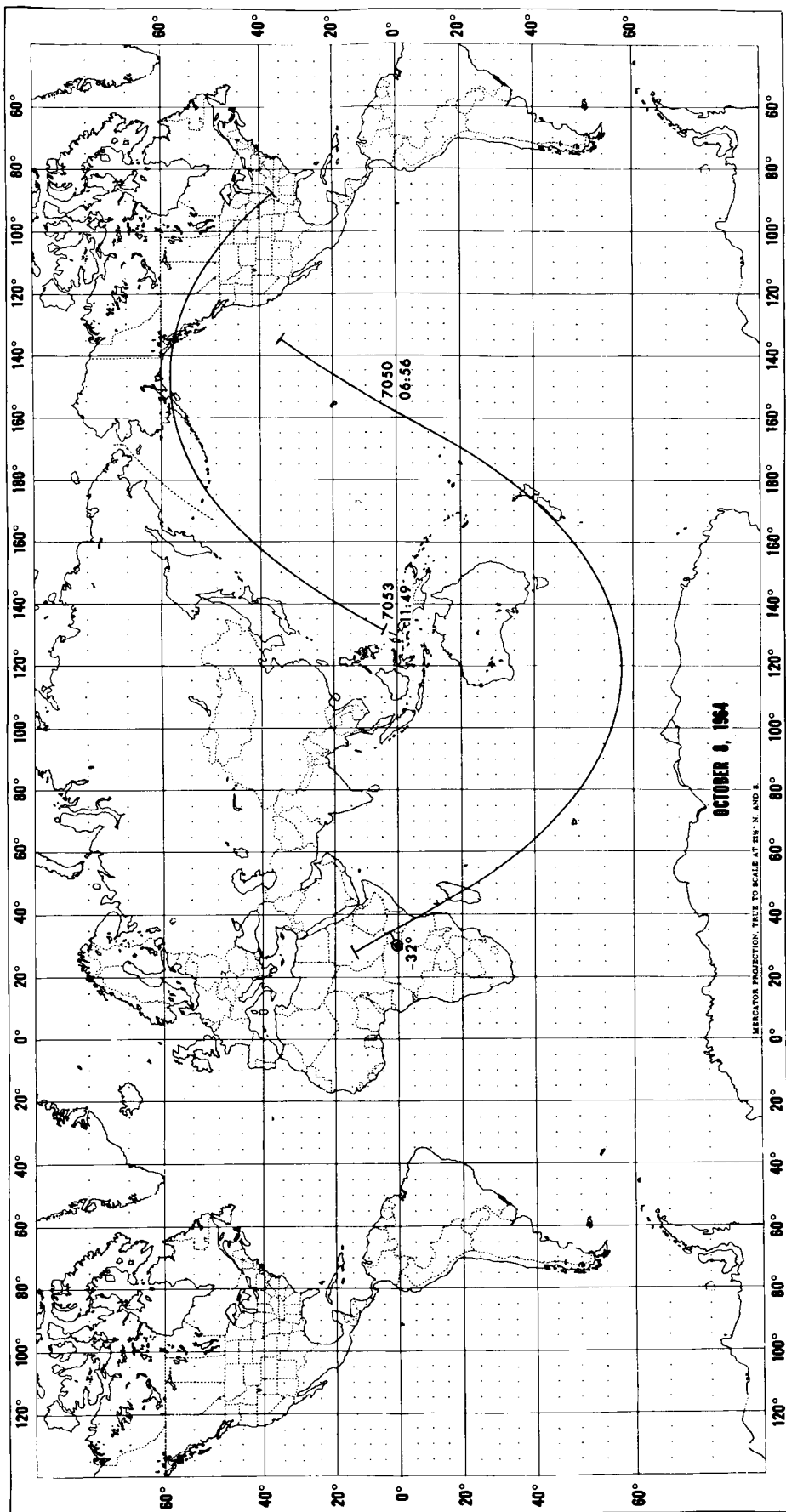


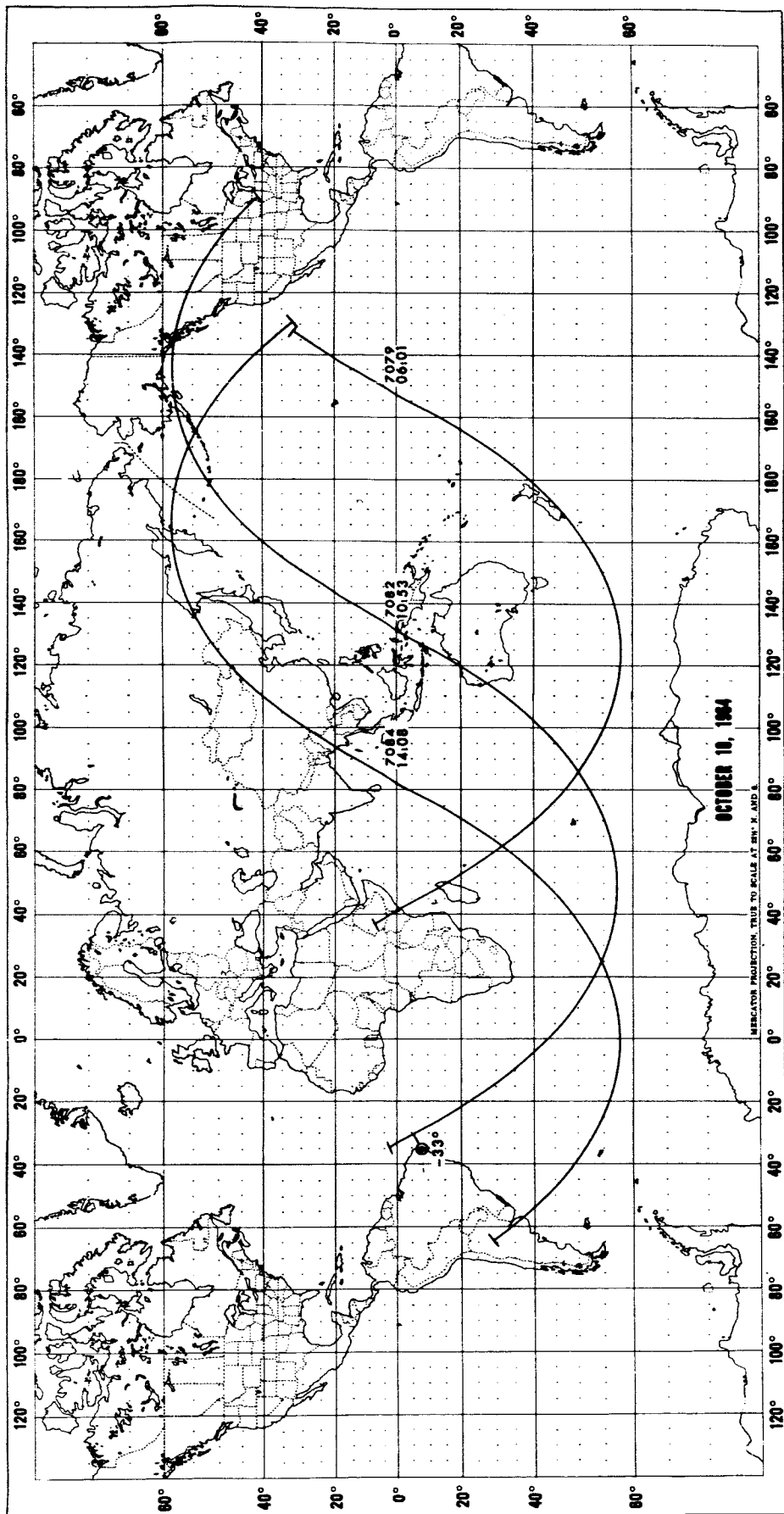


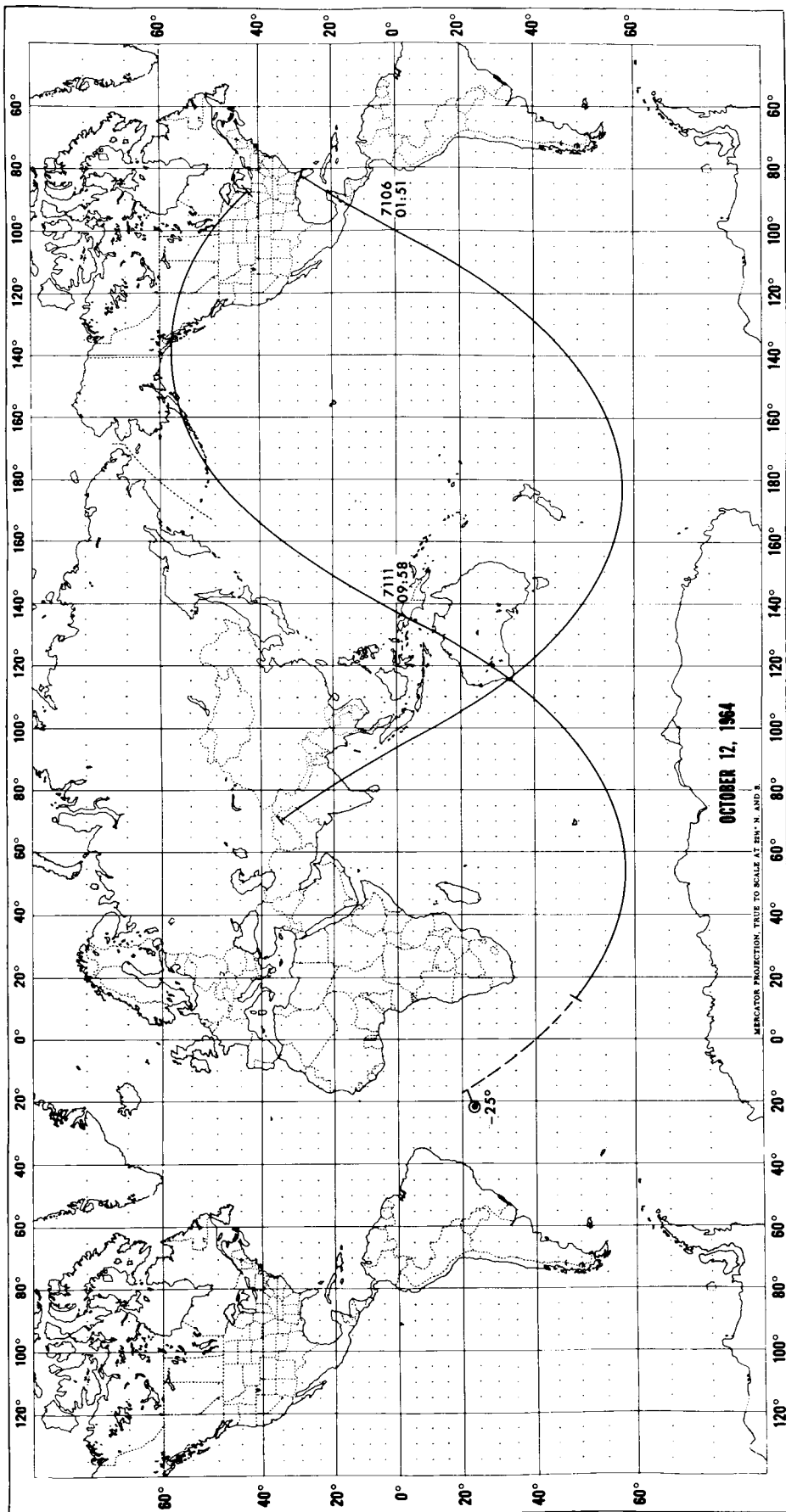


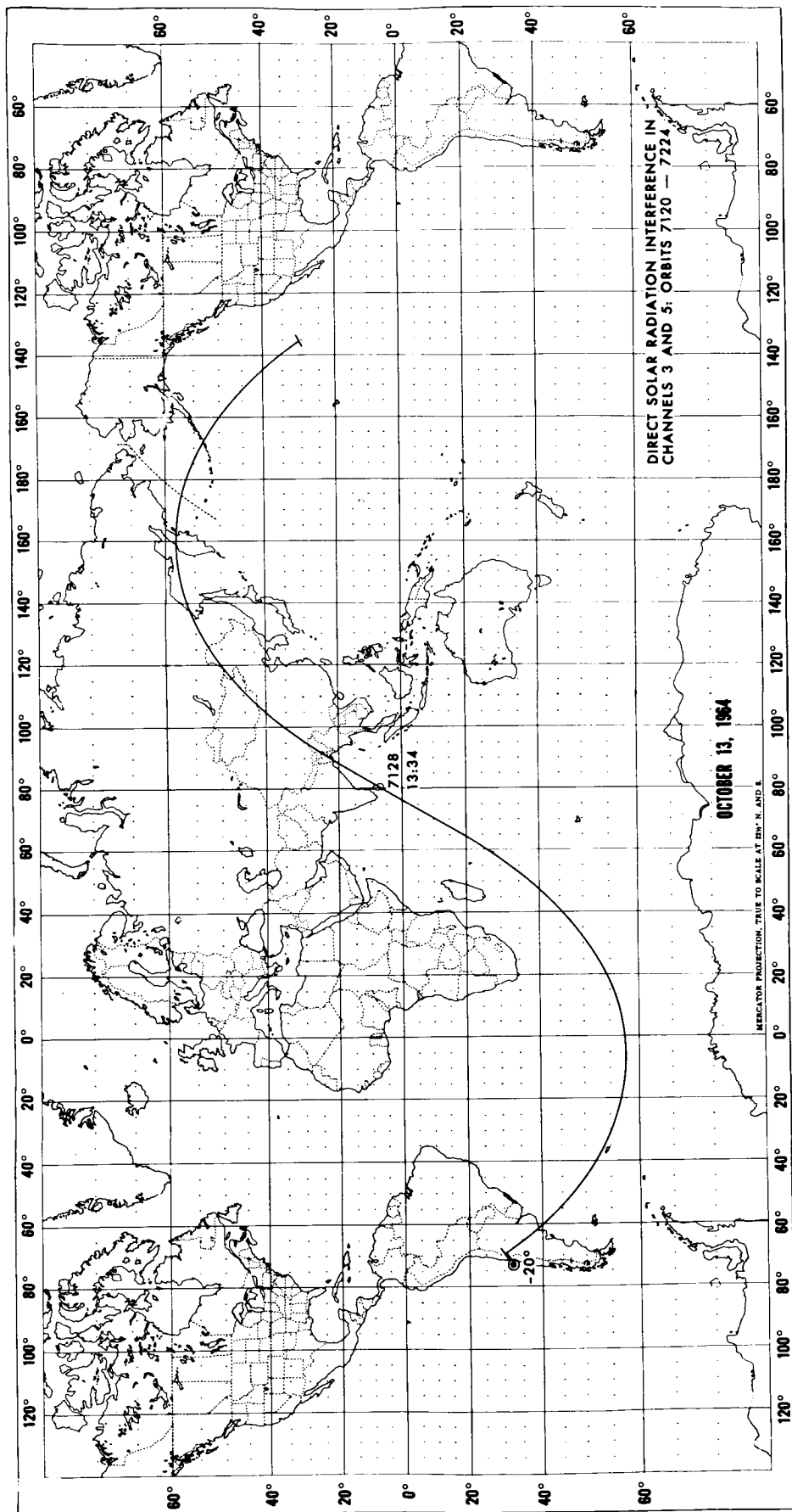


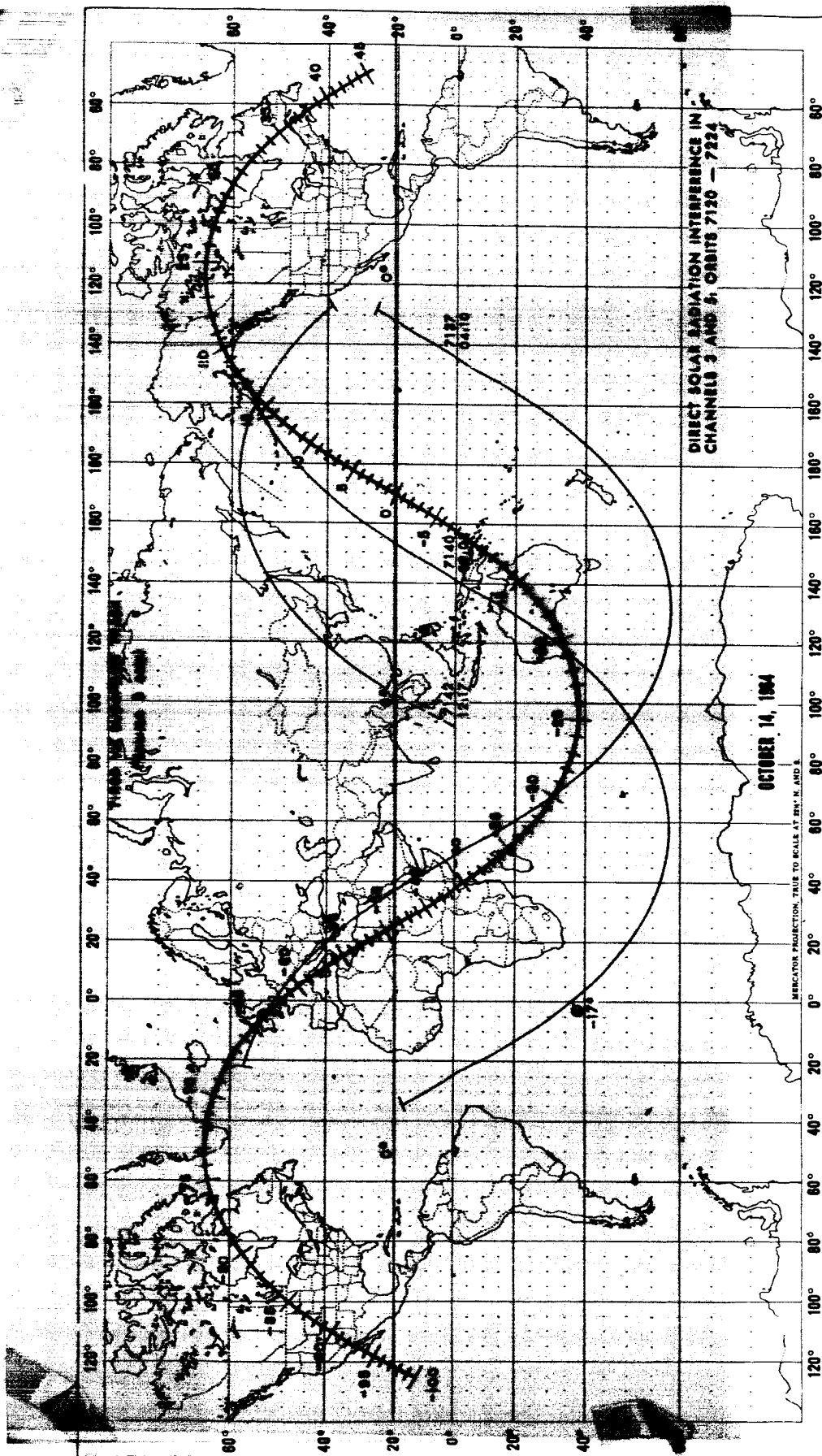


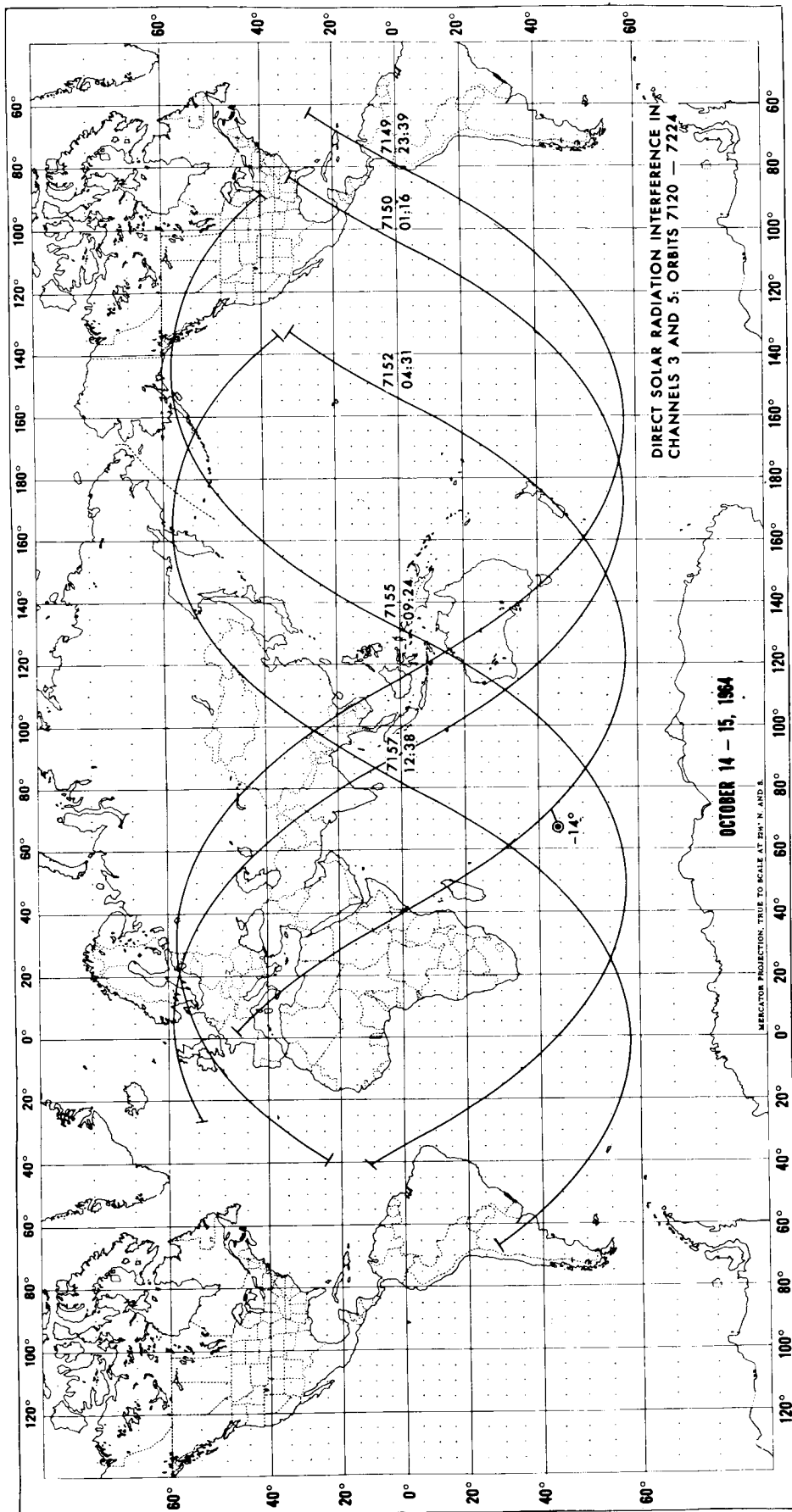


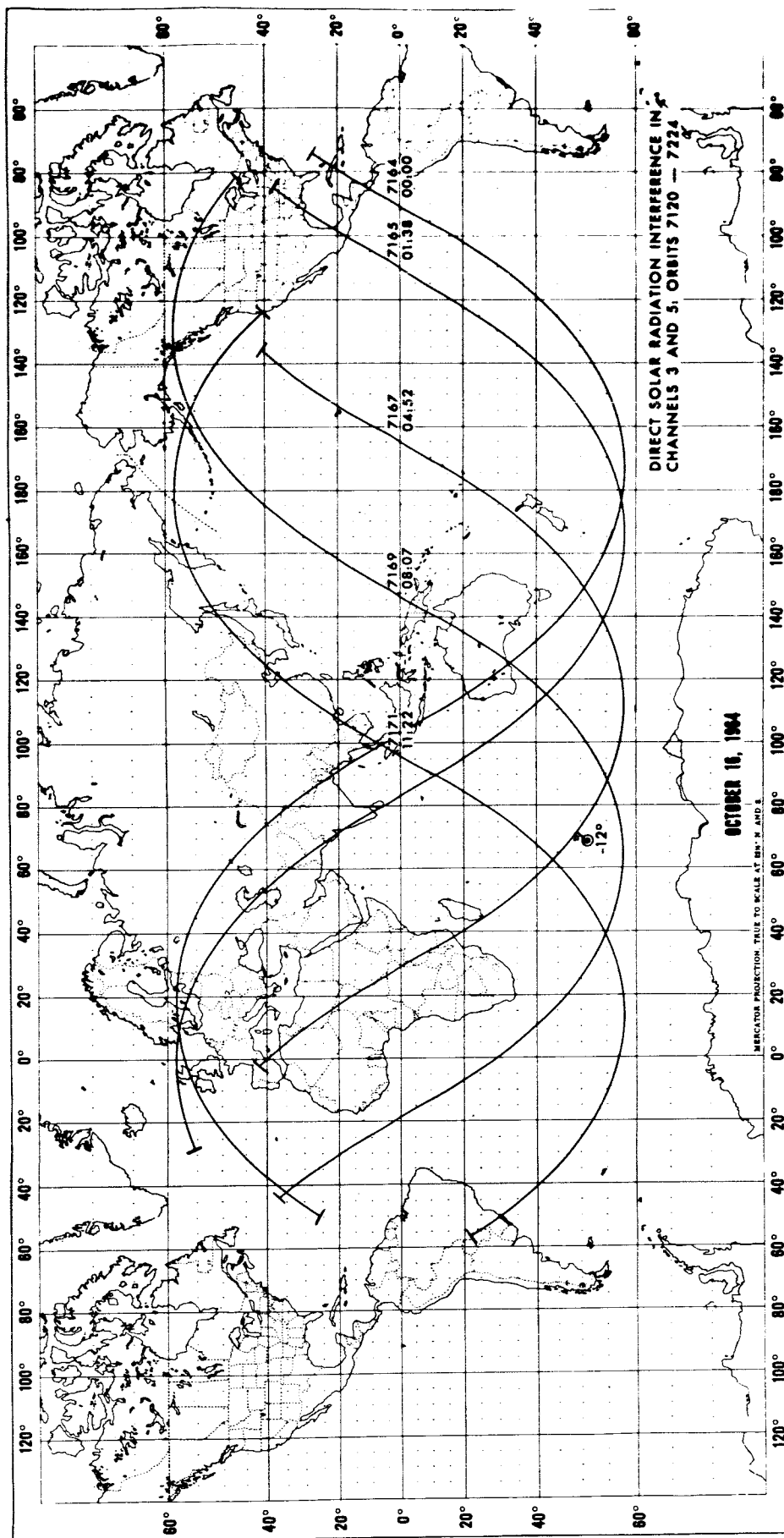


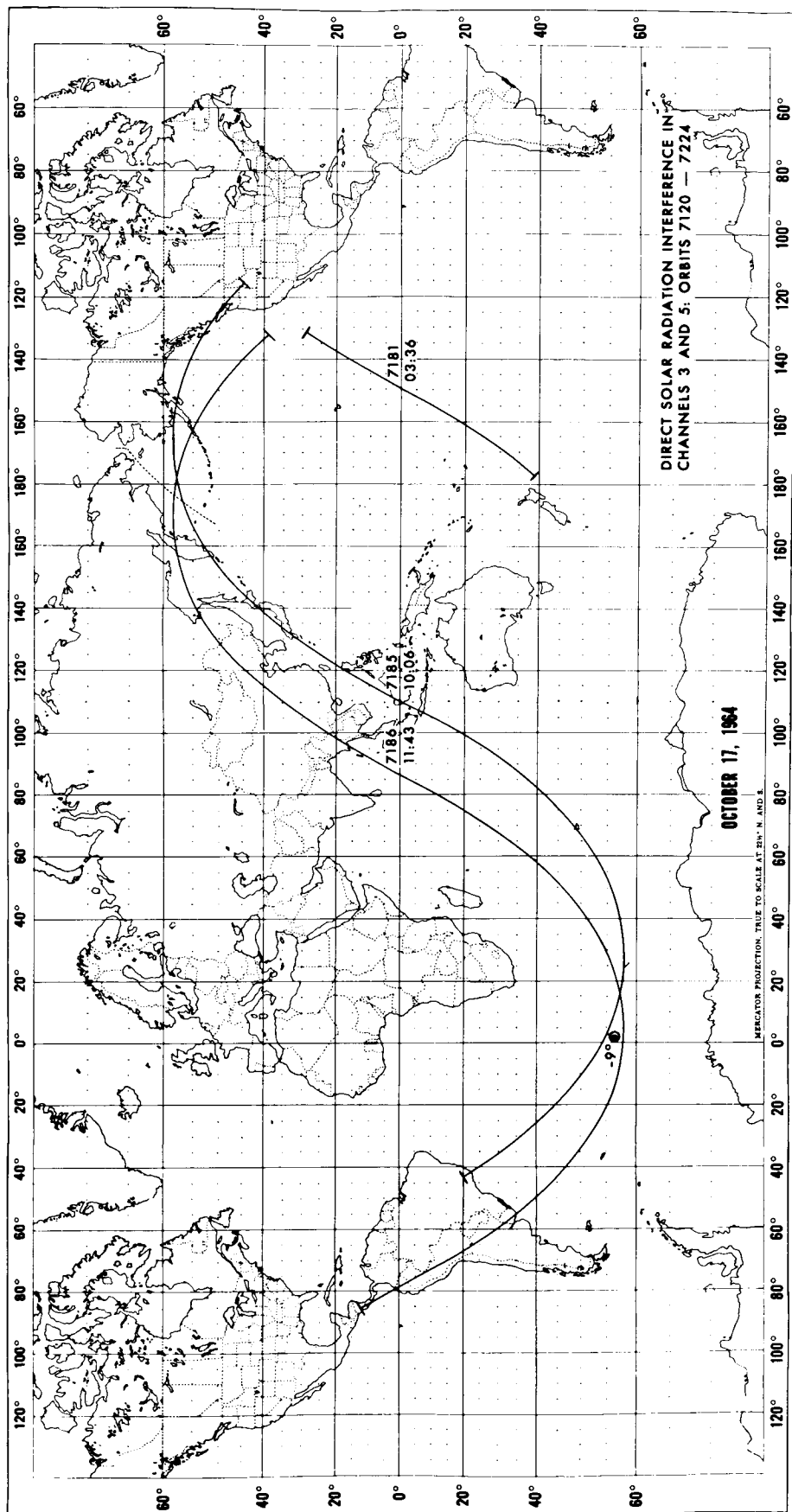


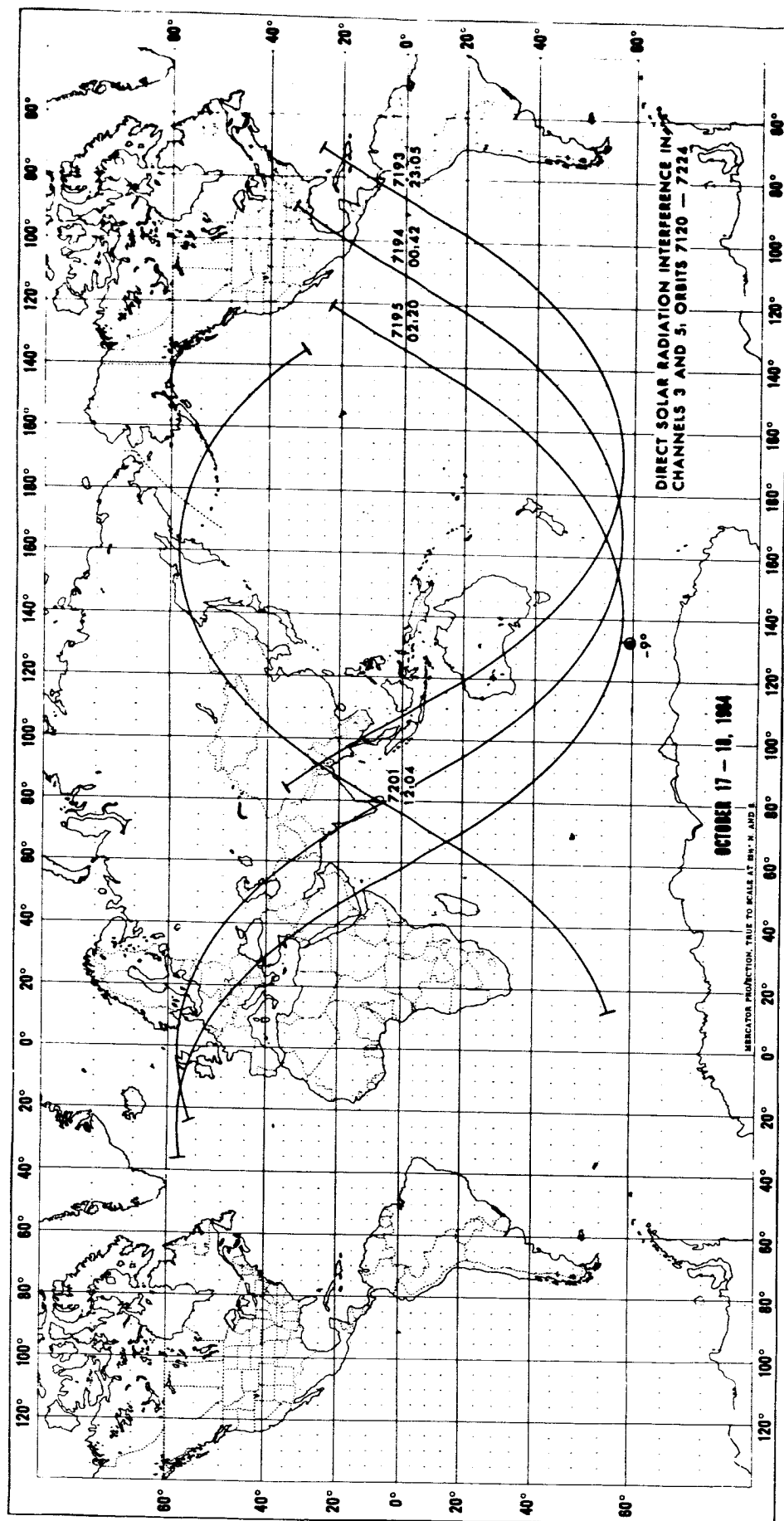


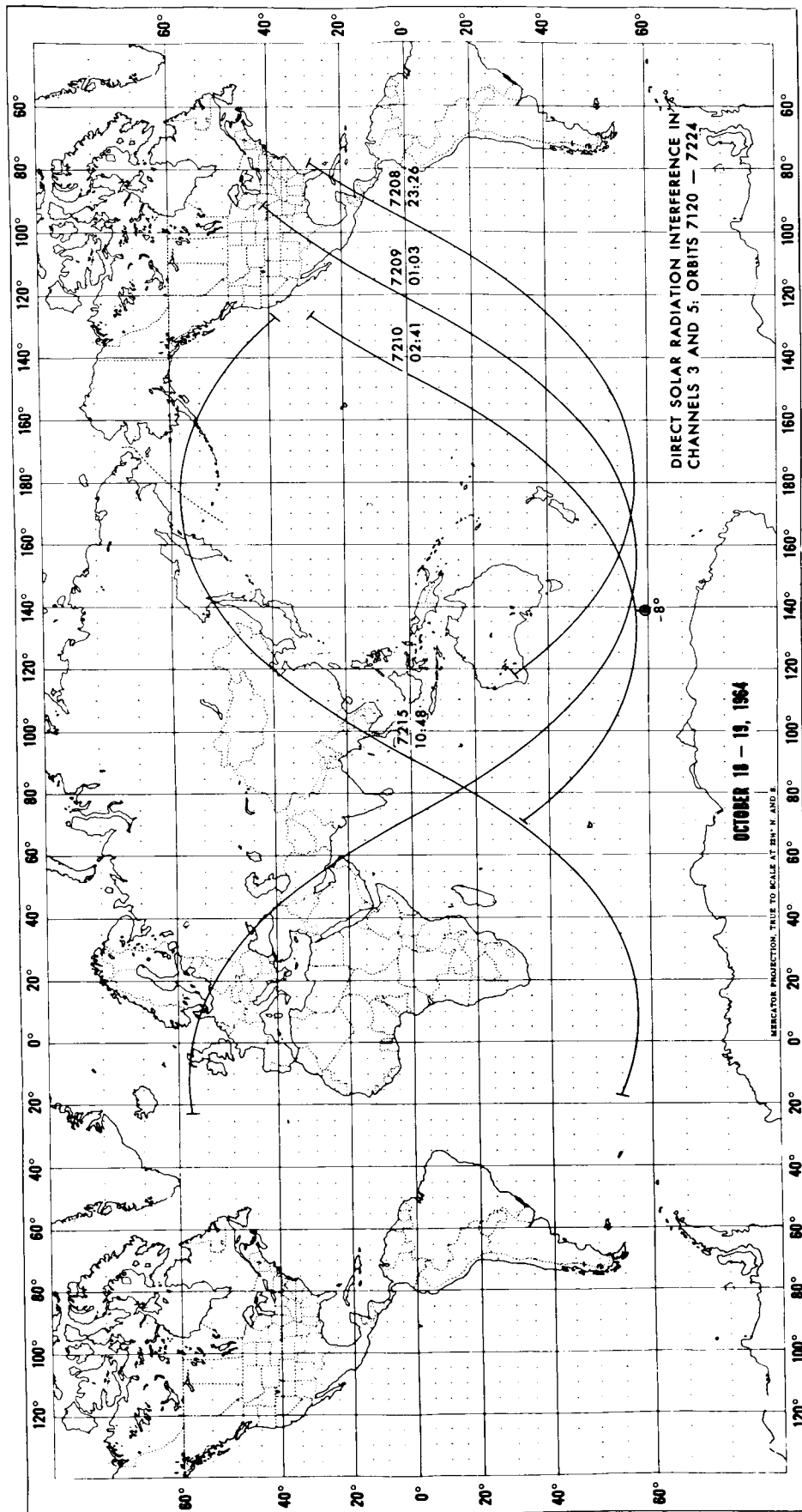


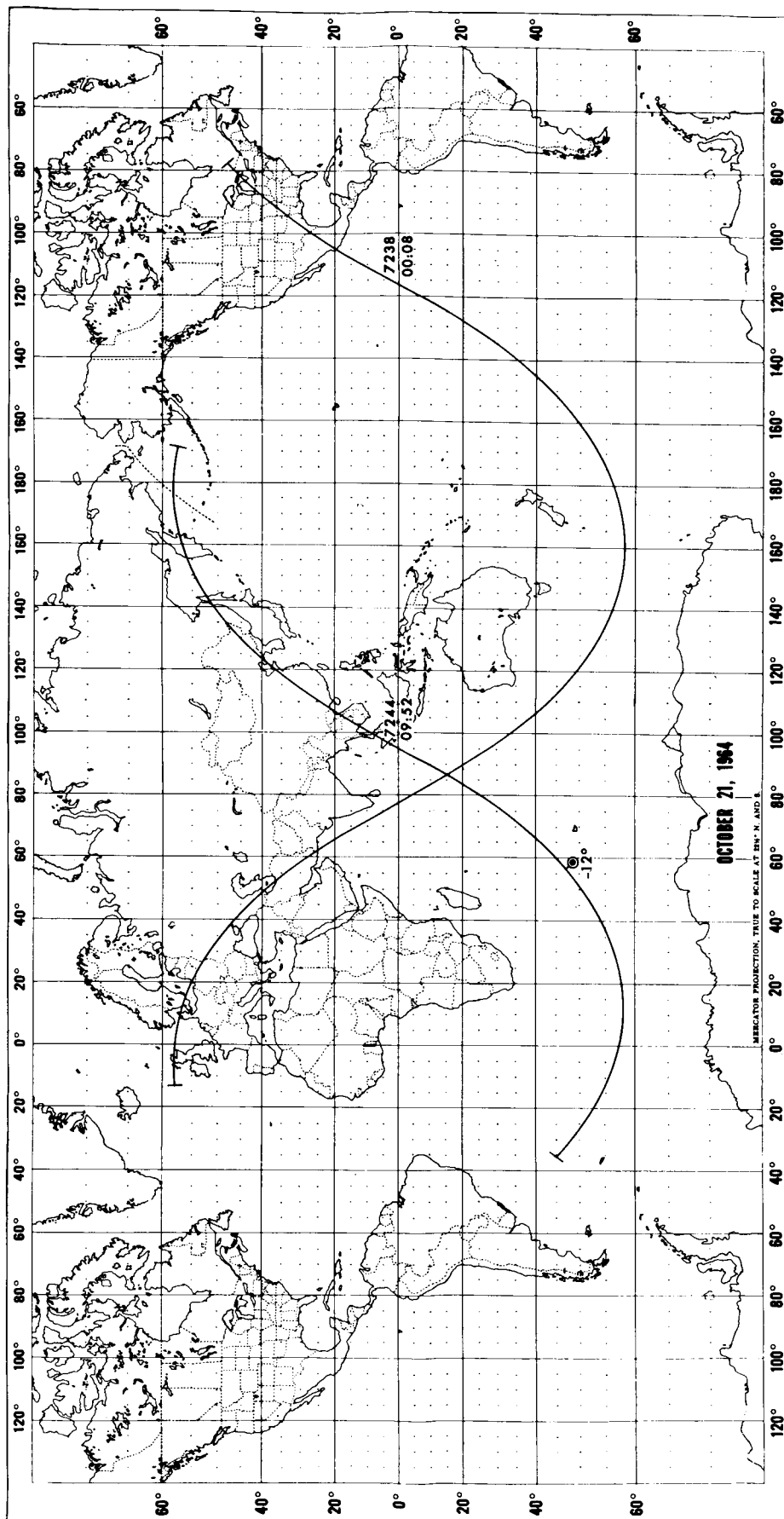


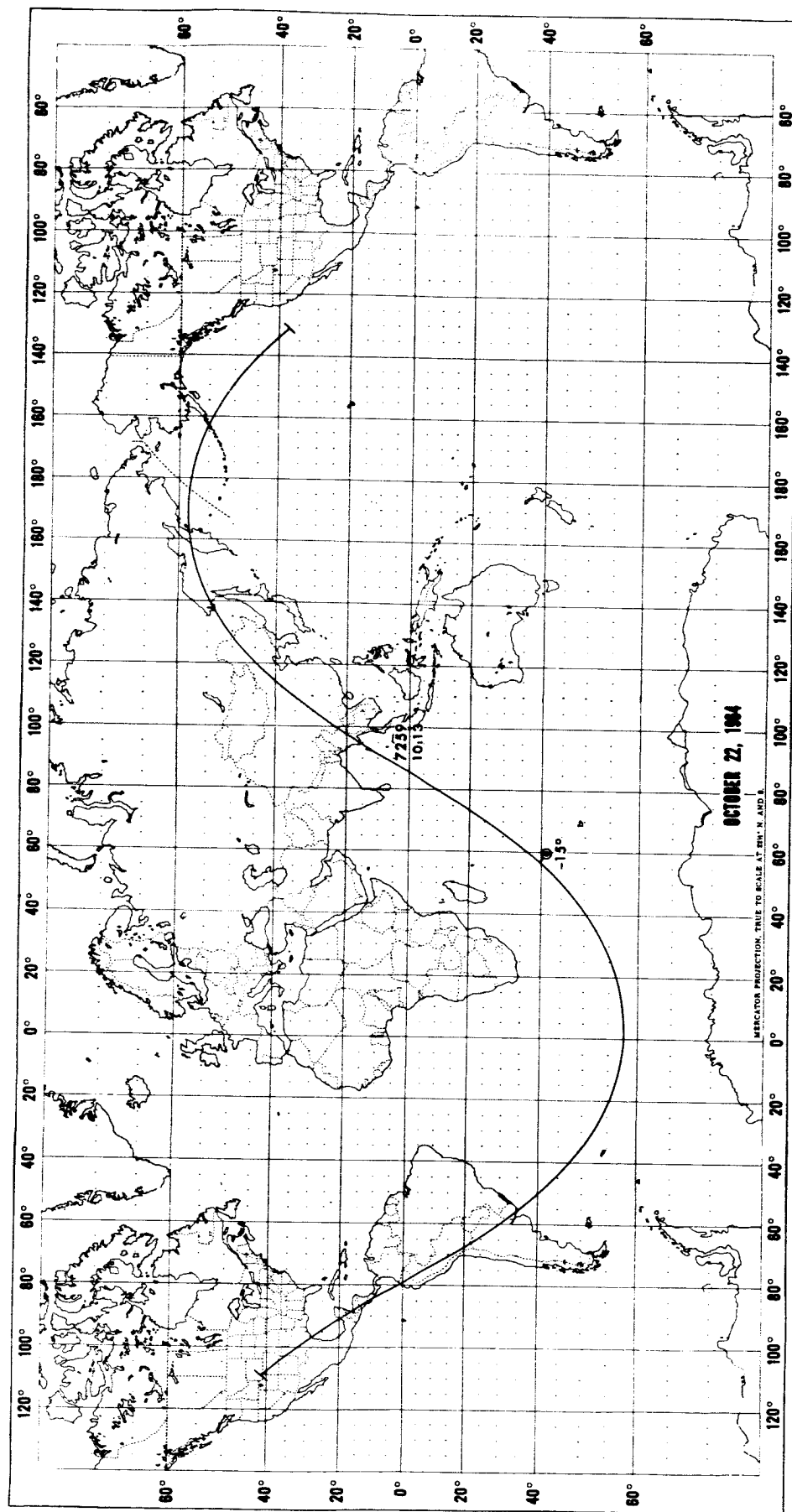


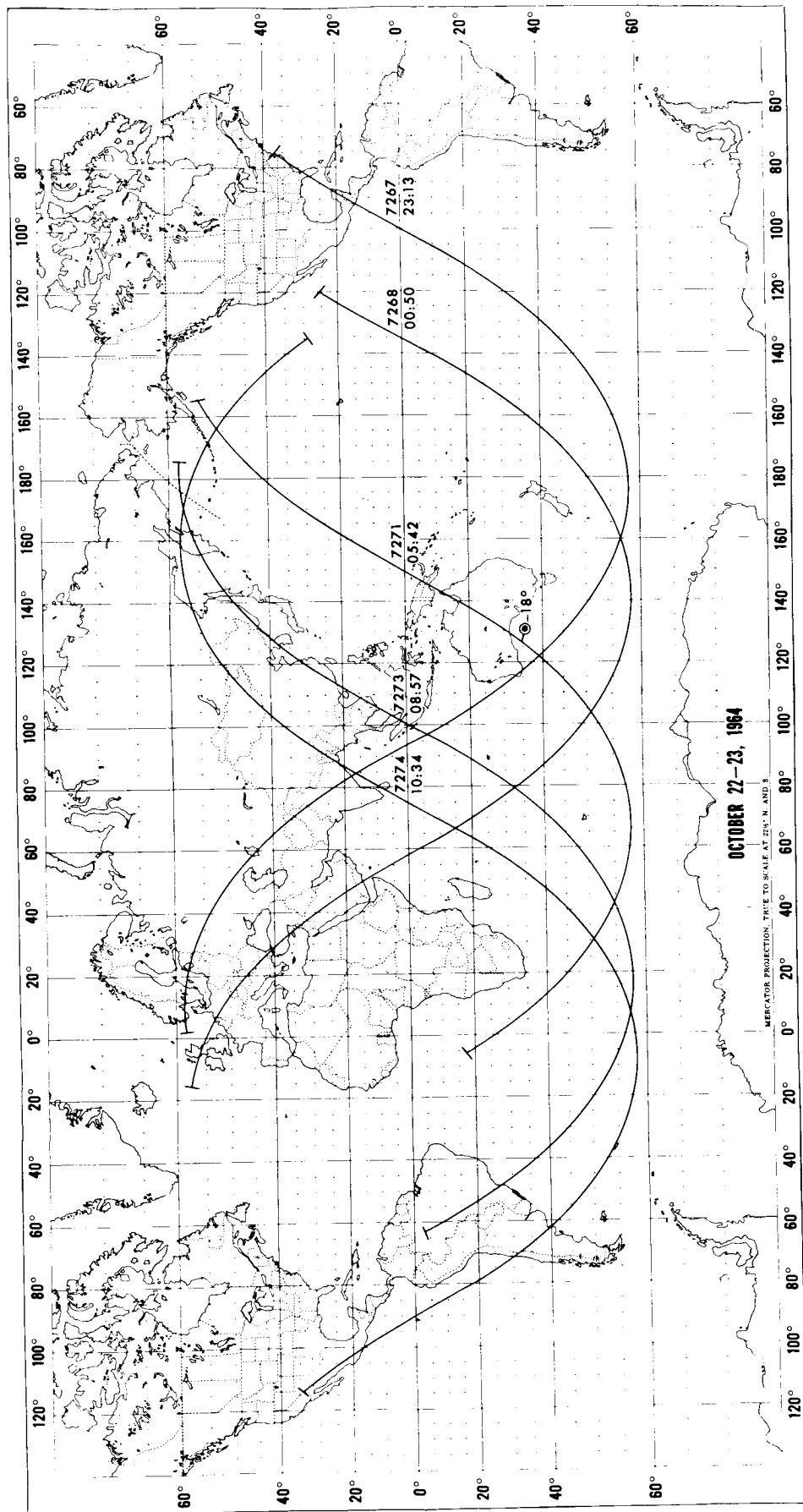


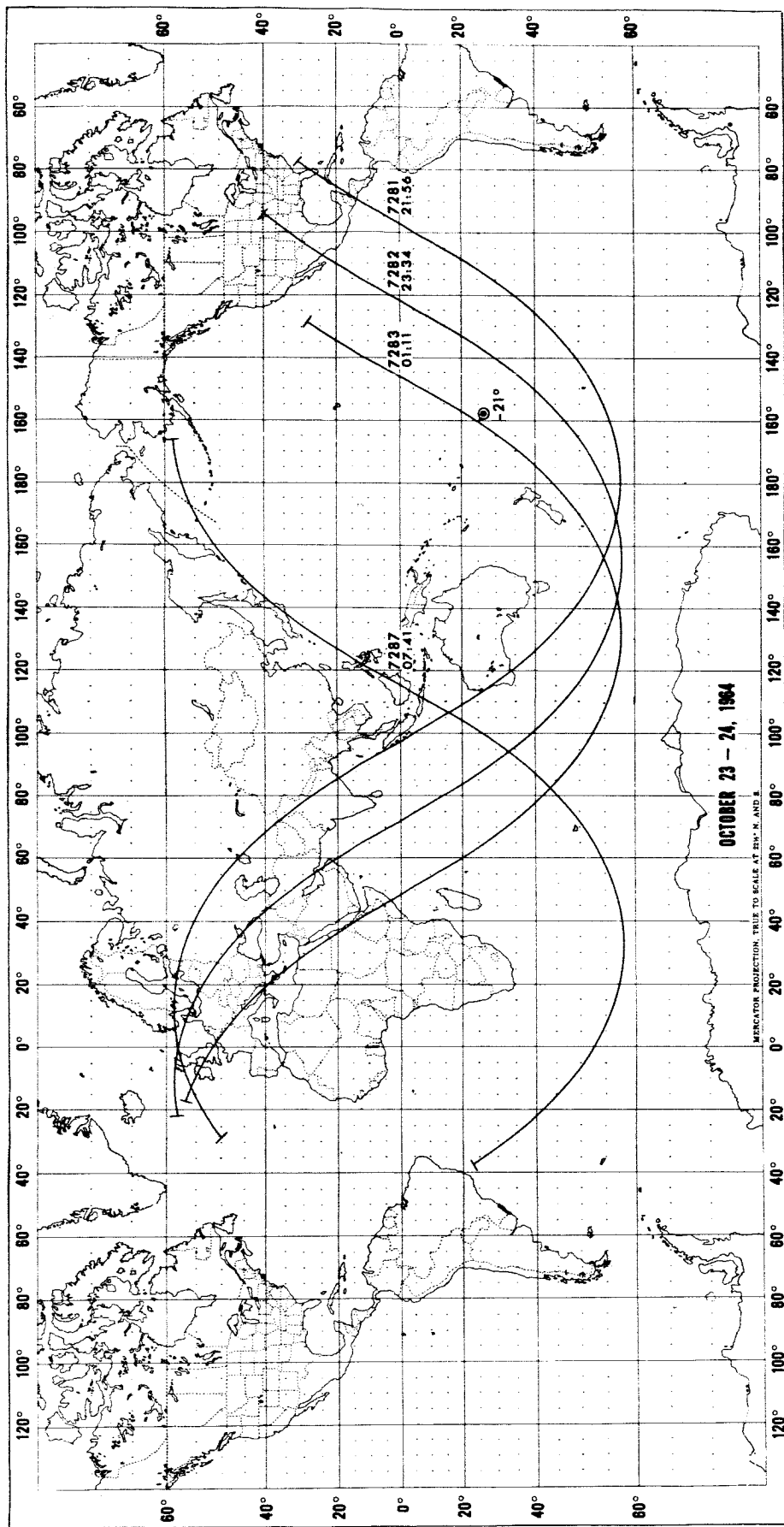


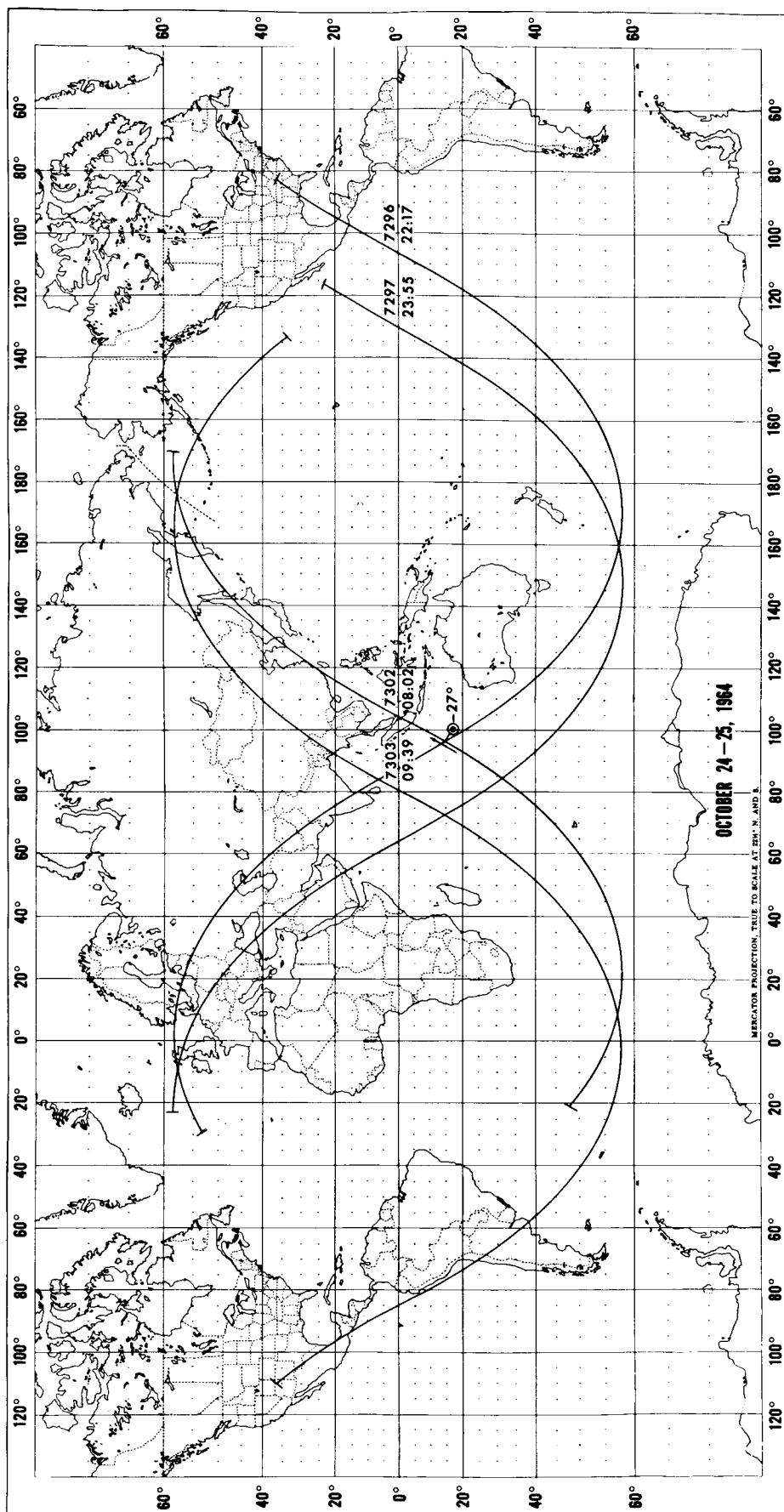


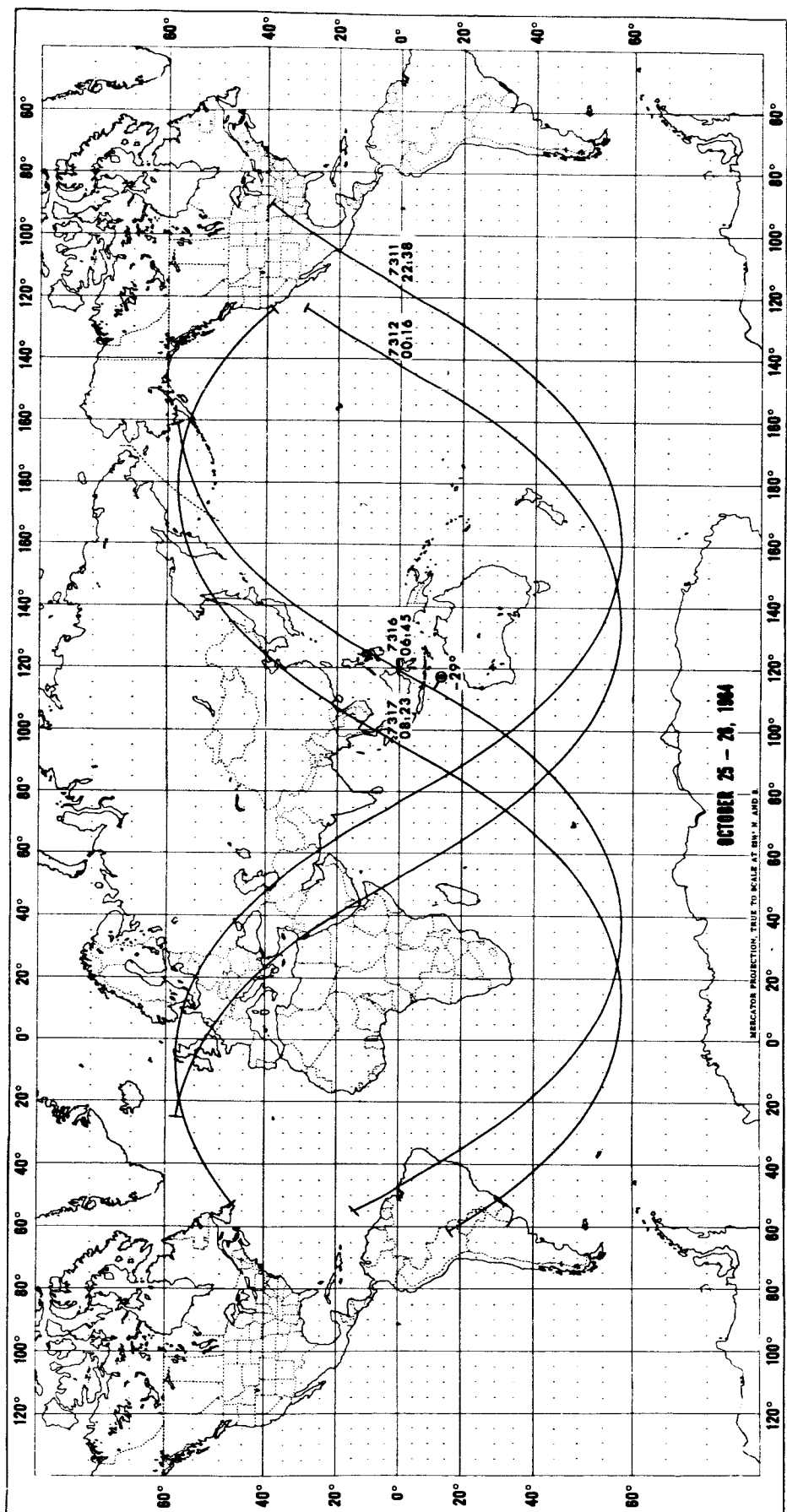


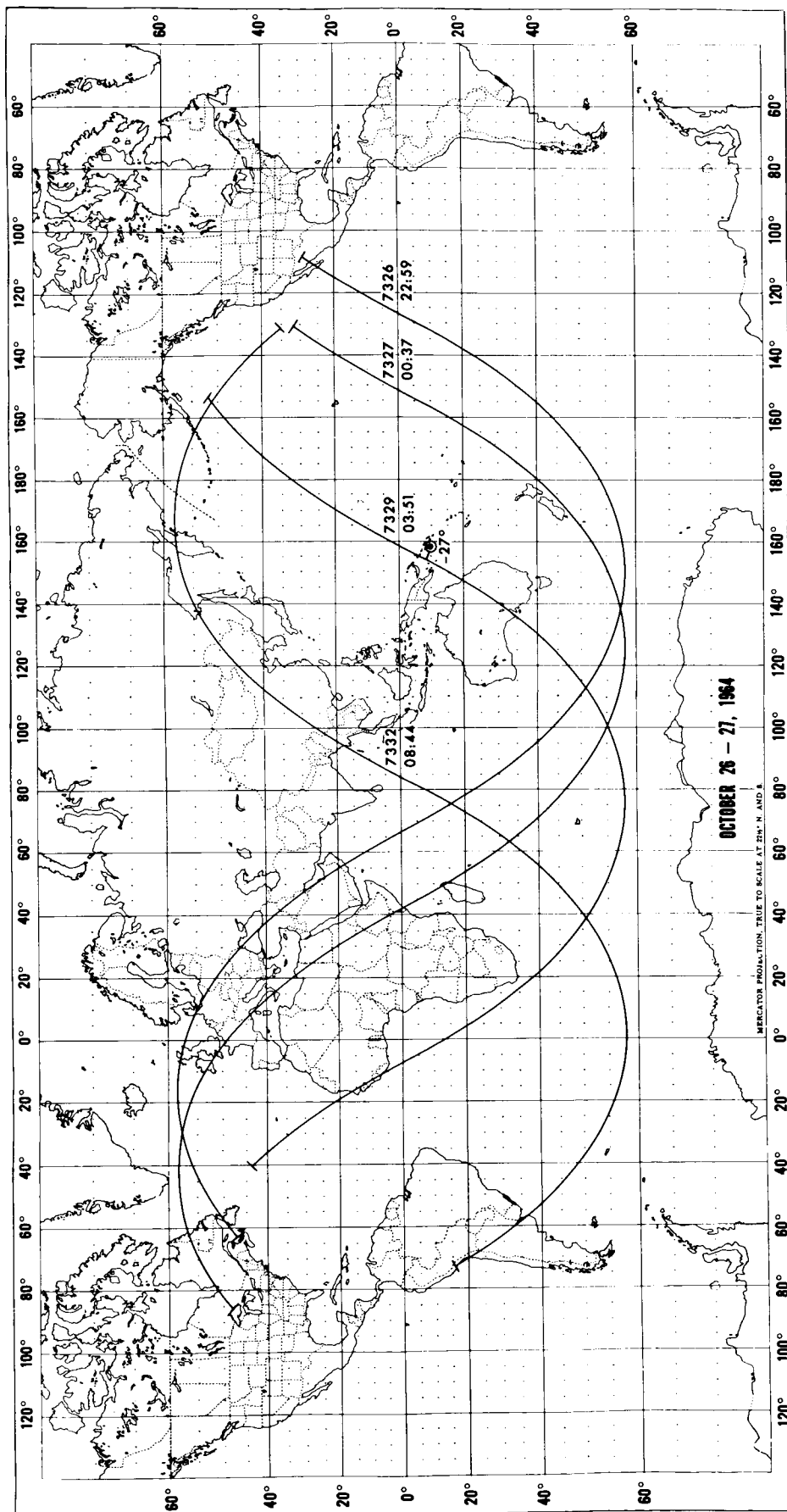


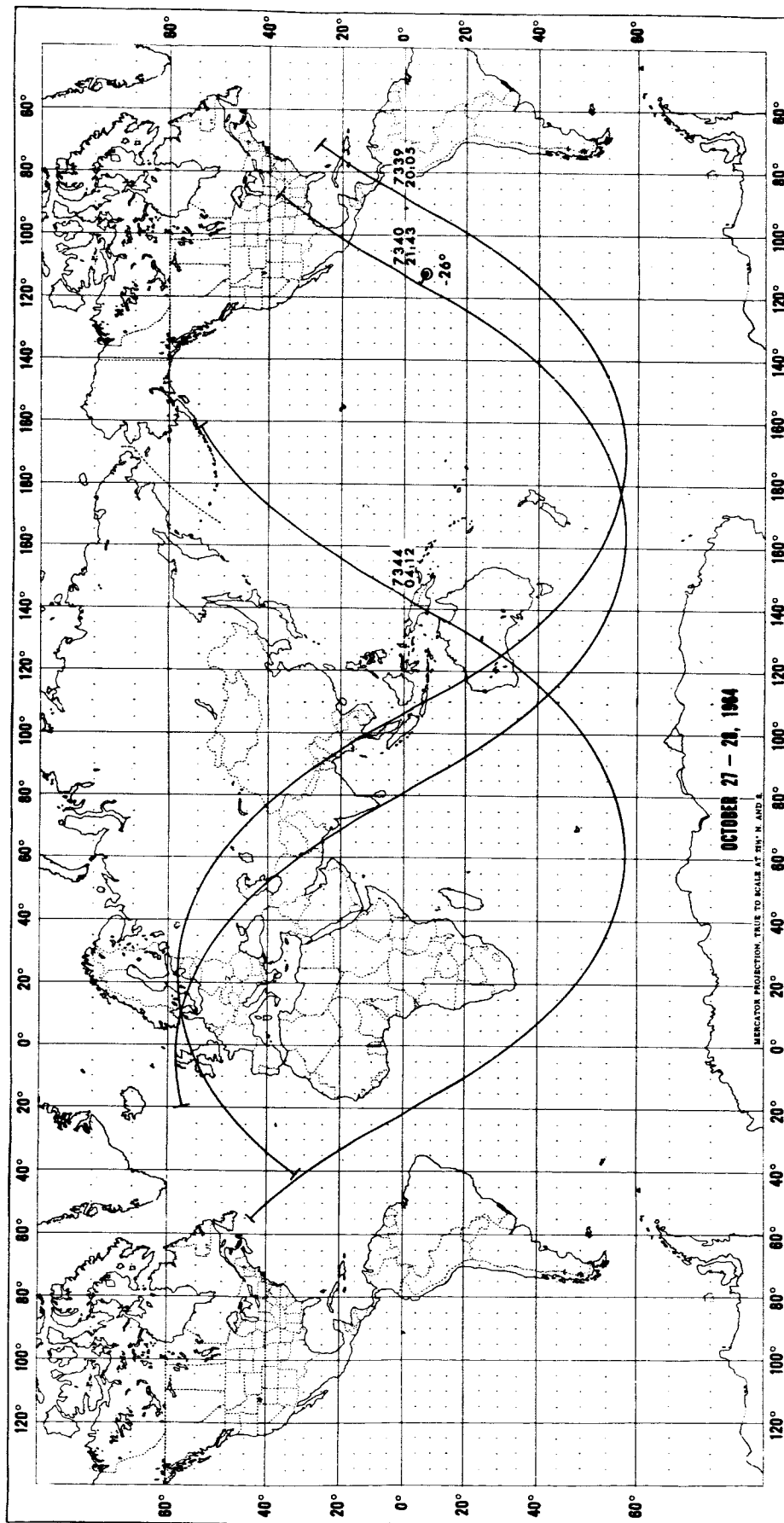


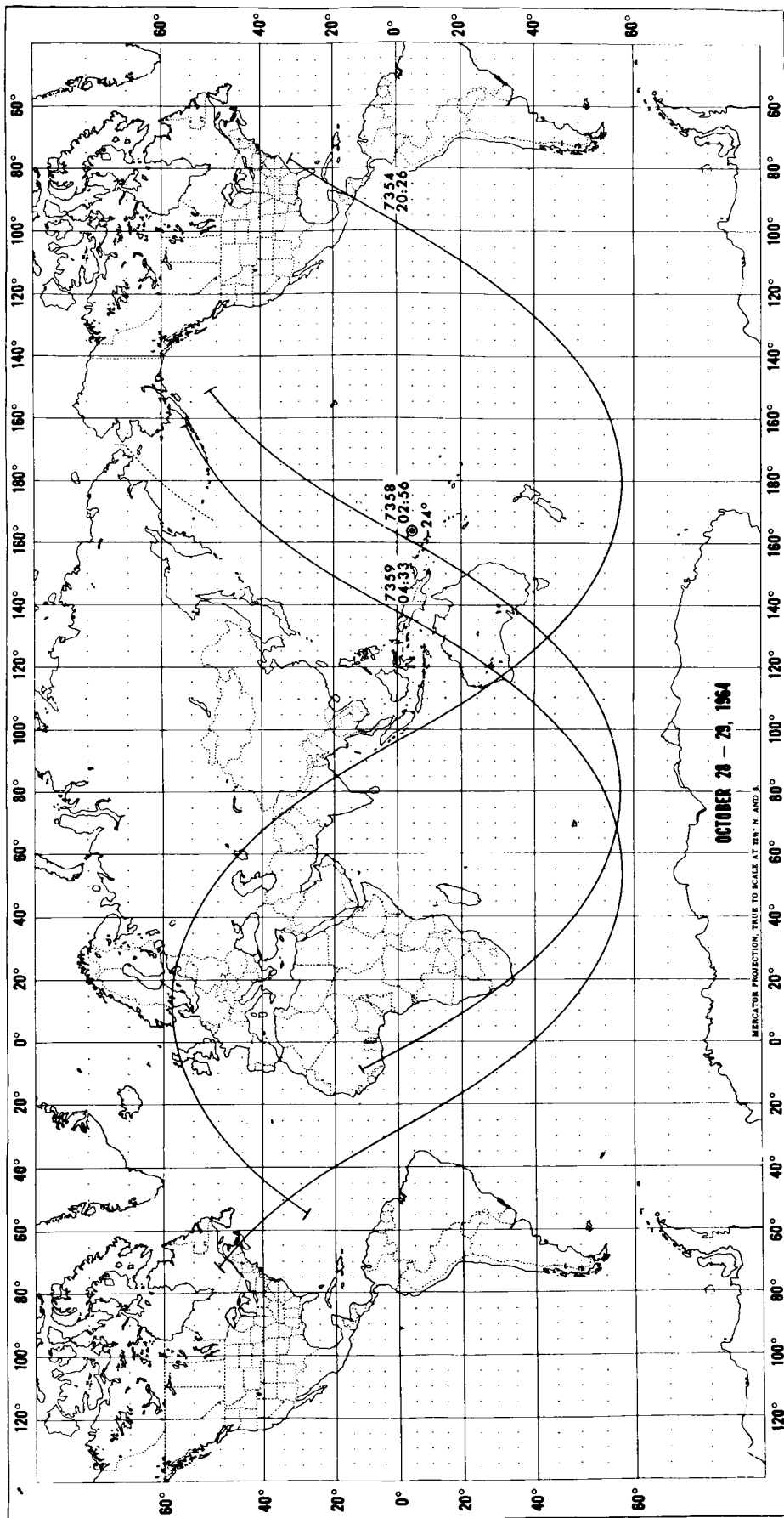


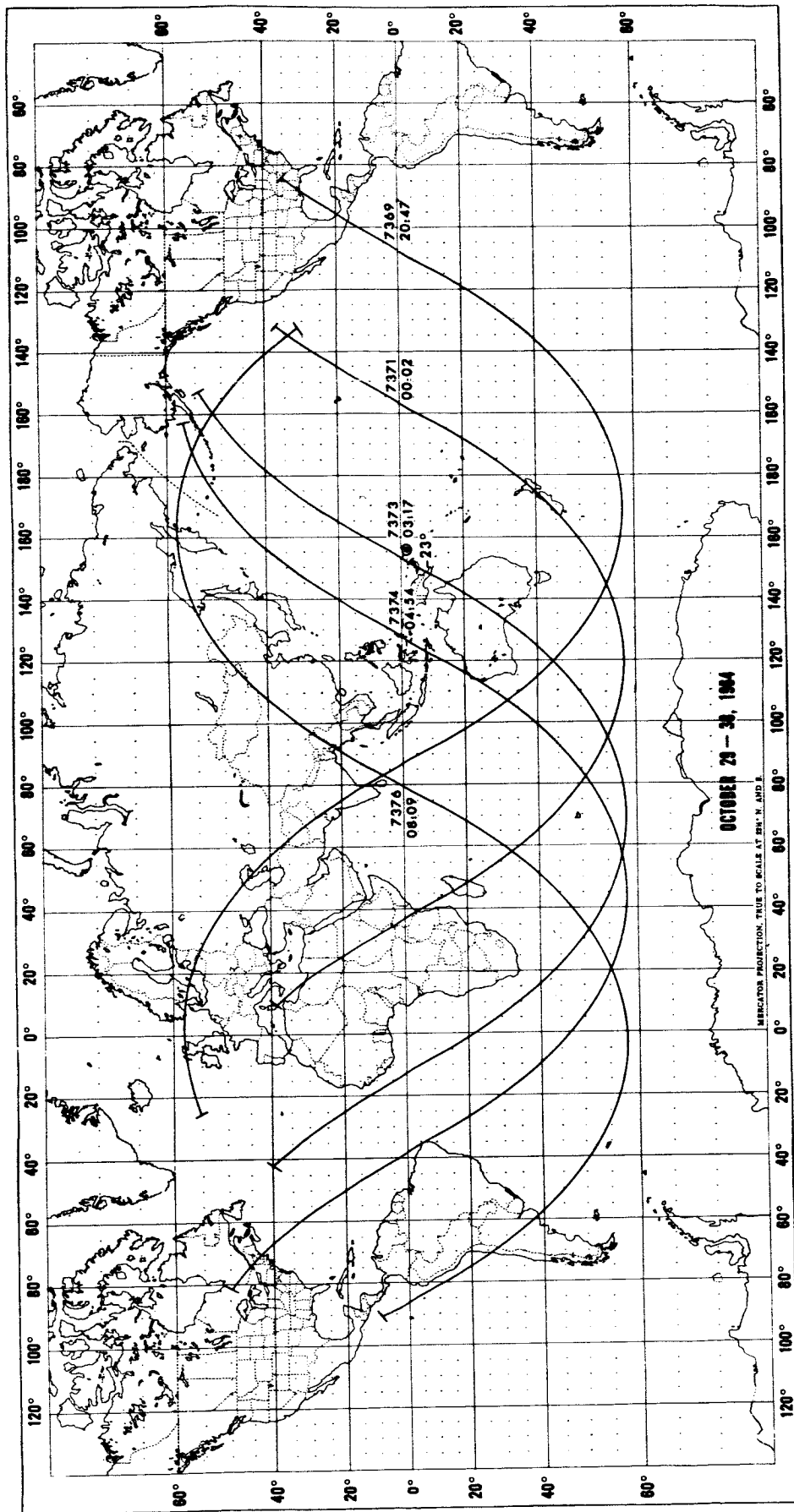


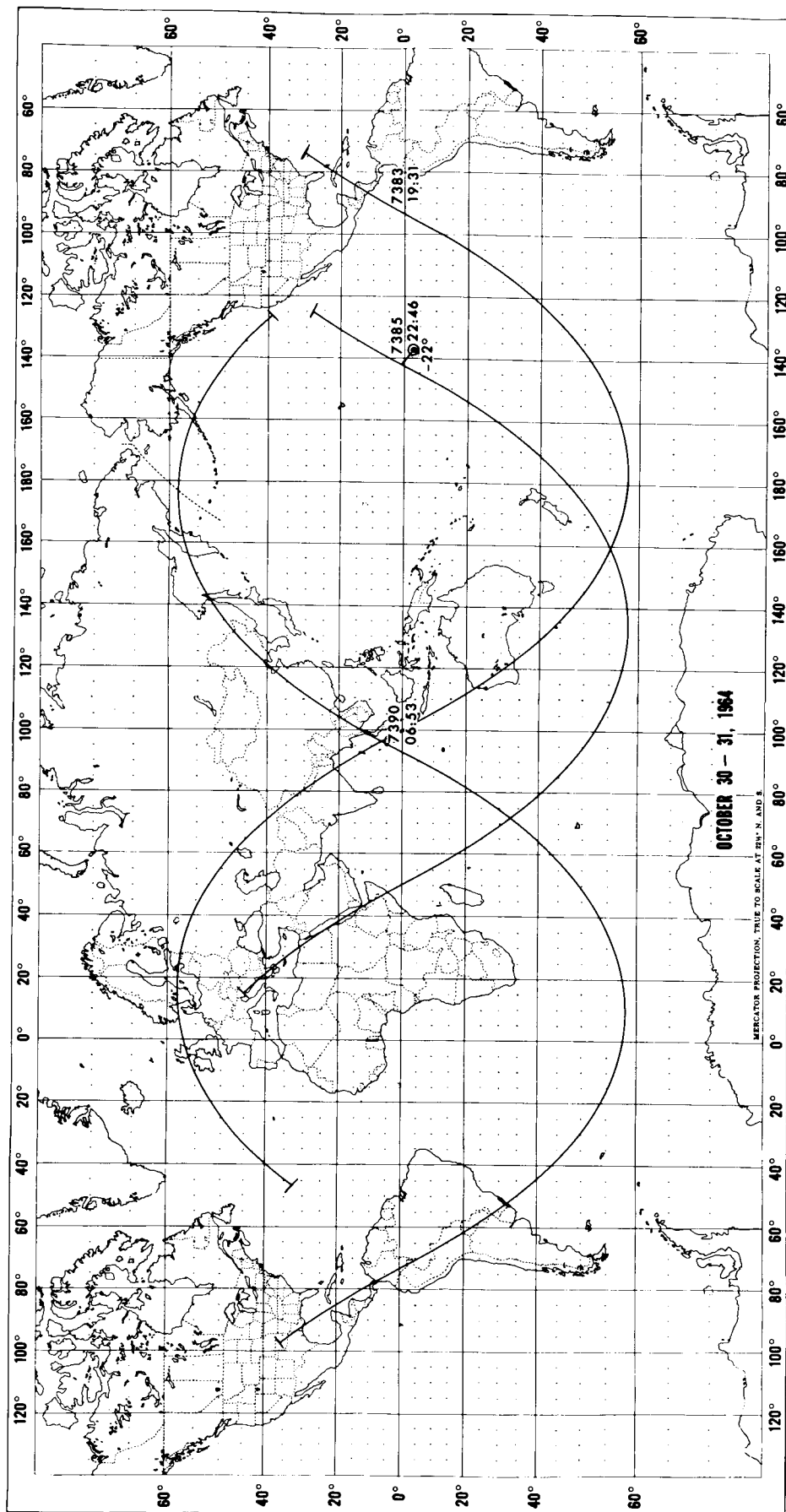


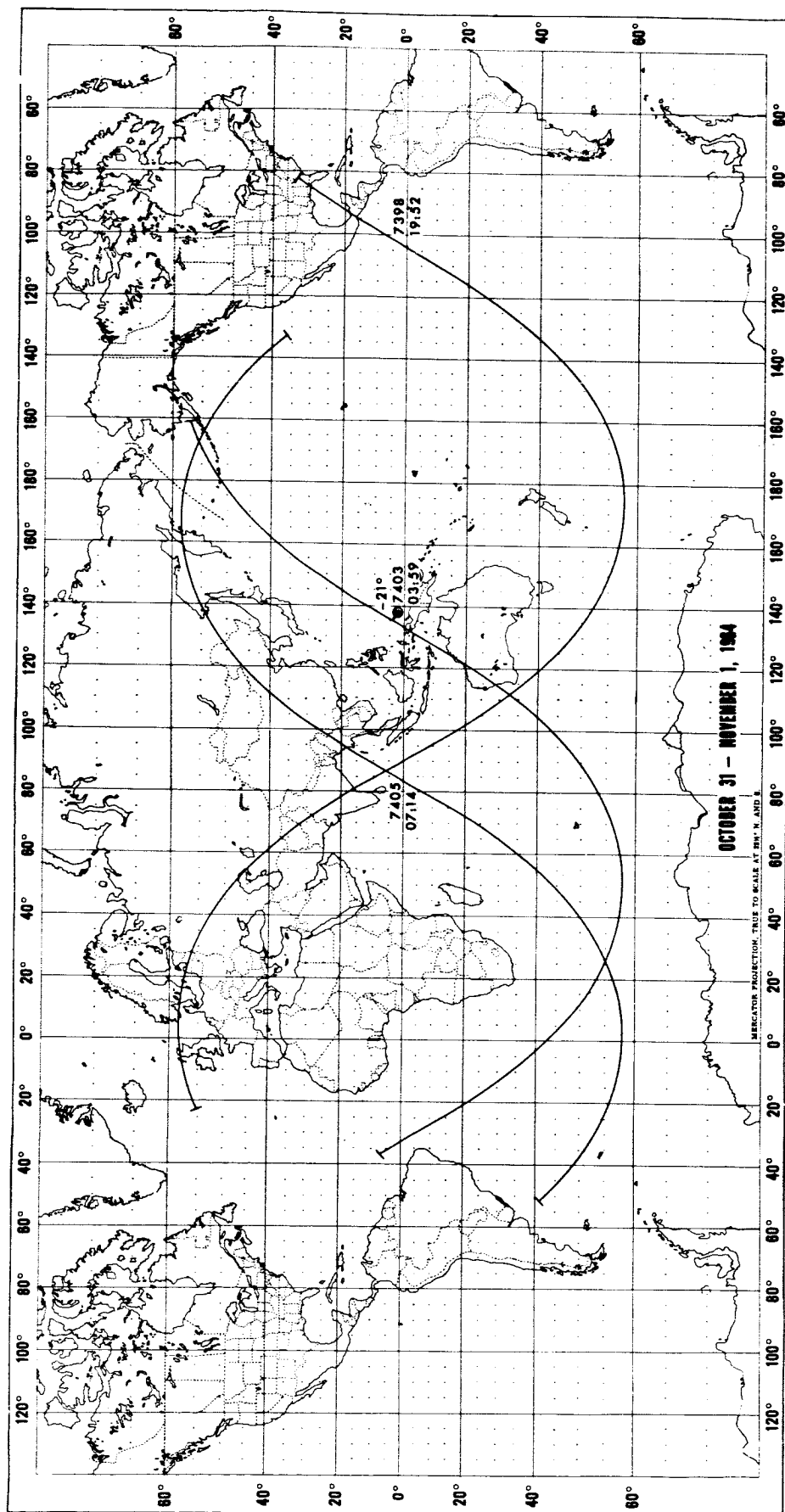






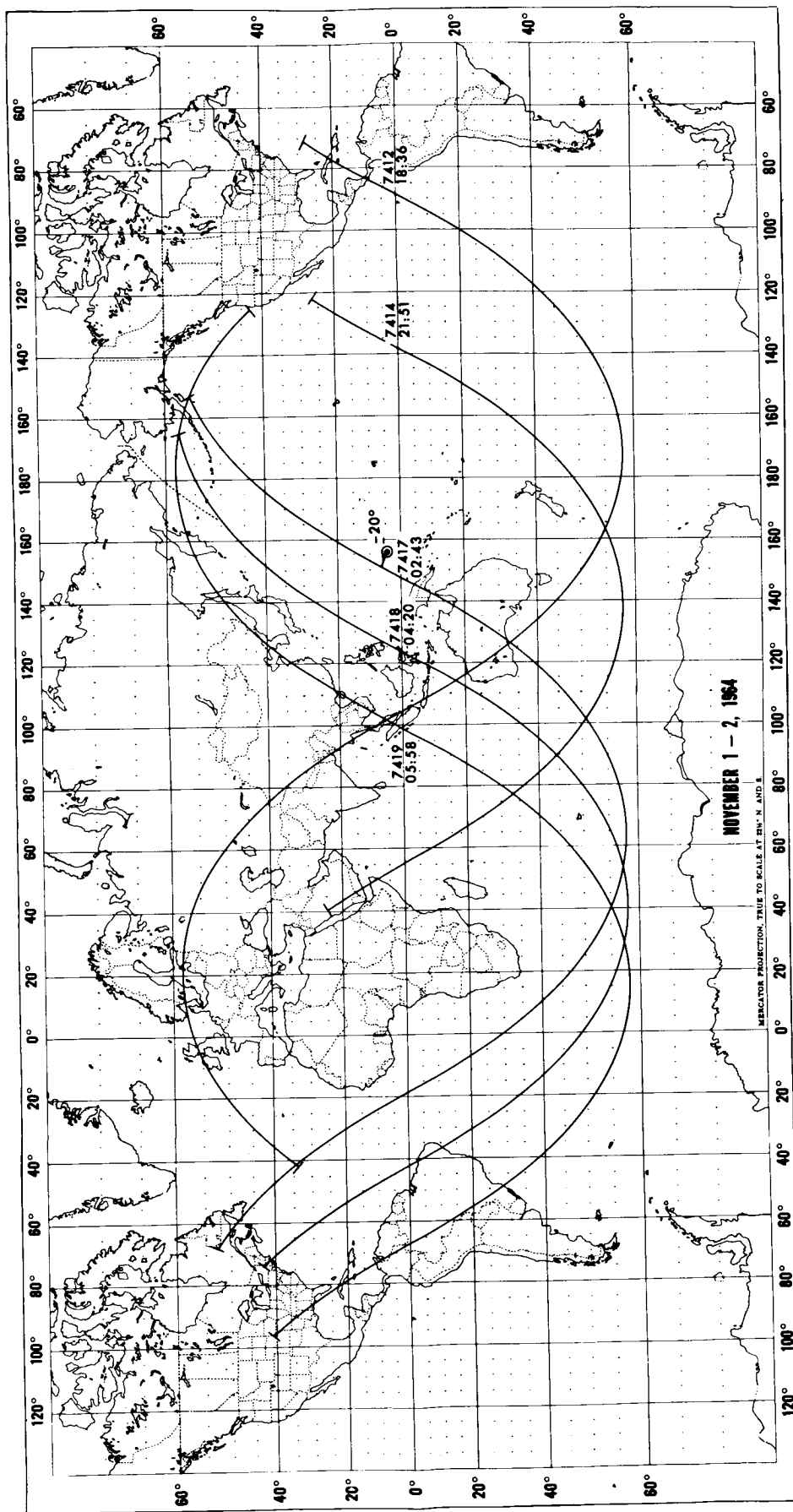


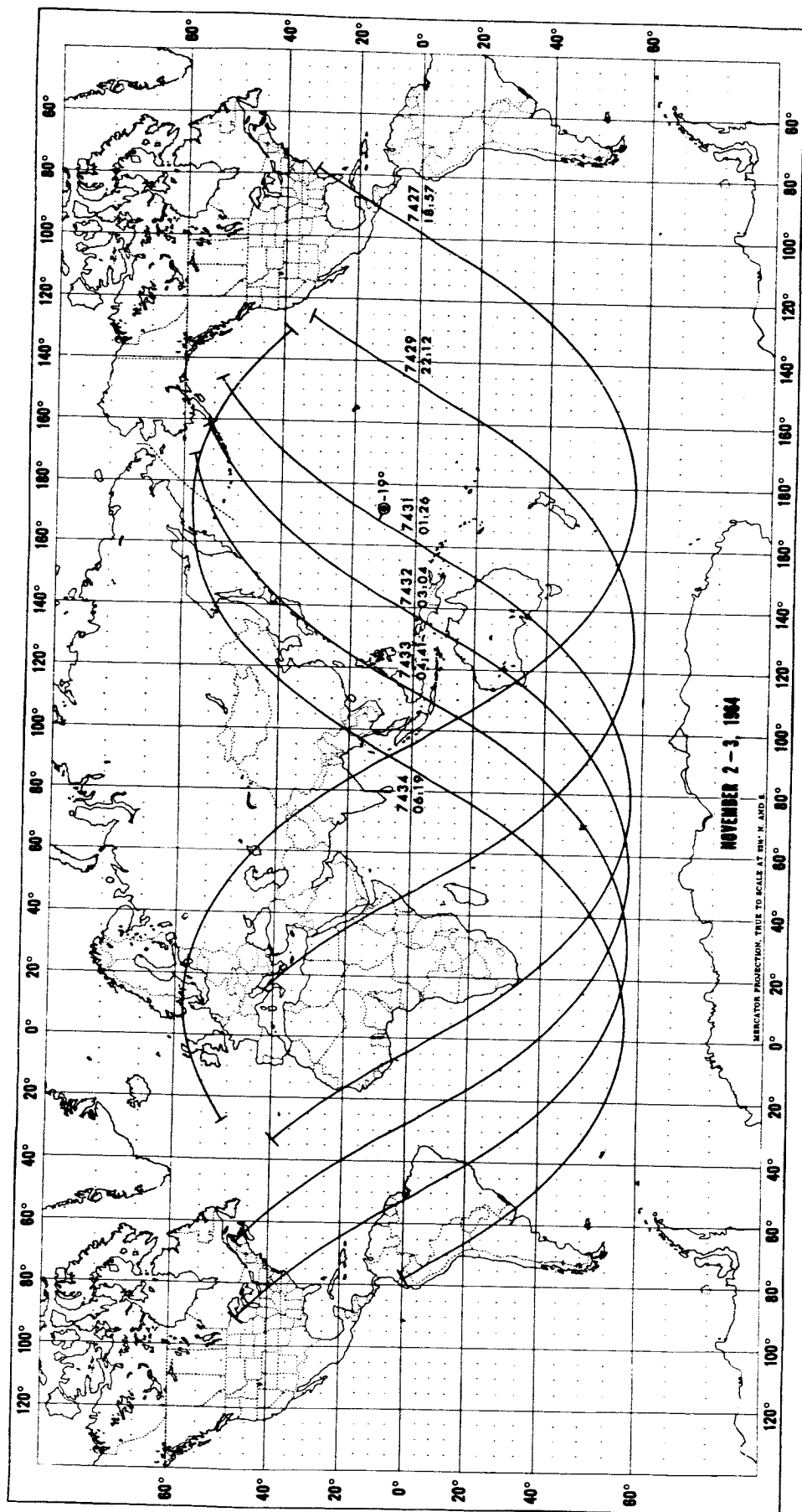


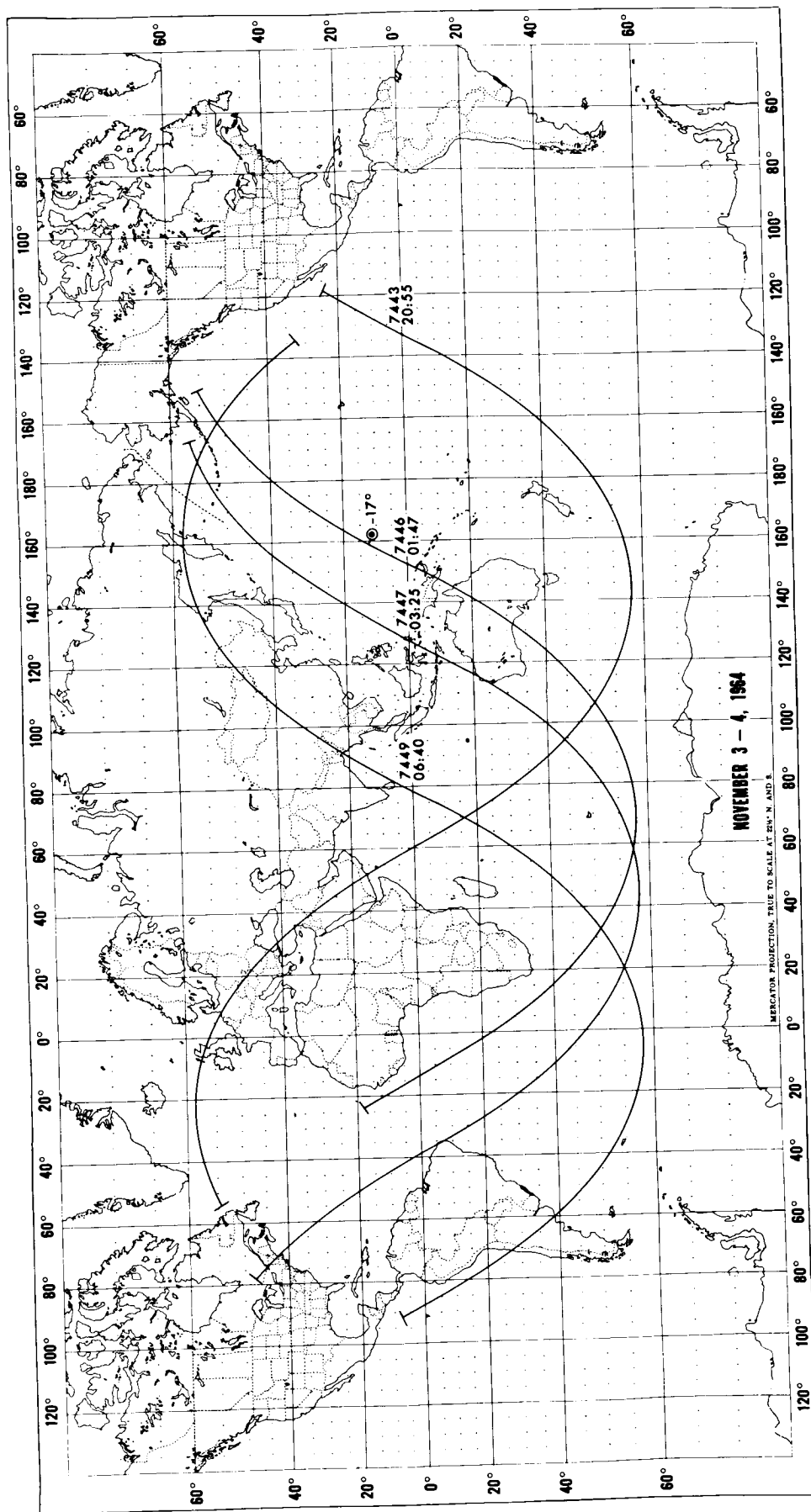


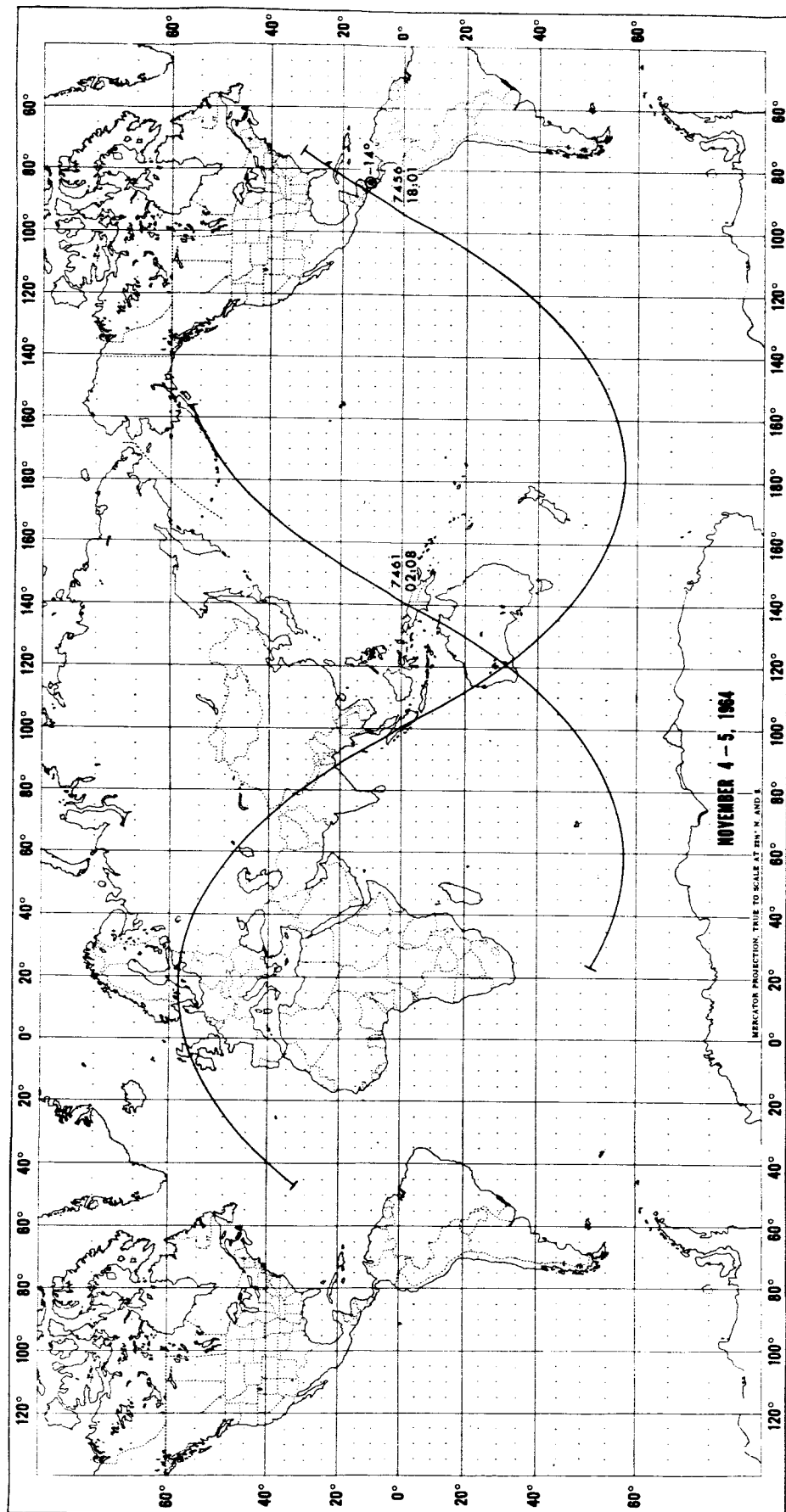
OCTOBER 31 - NOVEMBER 1, 1964

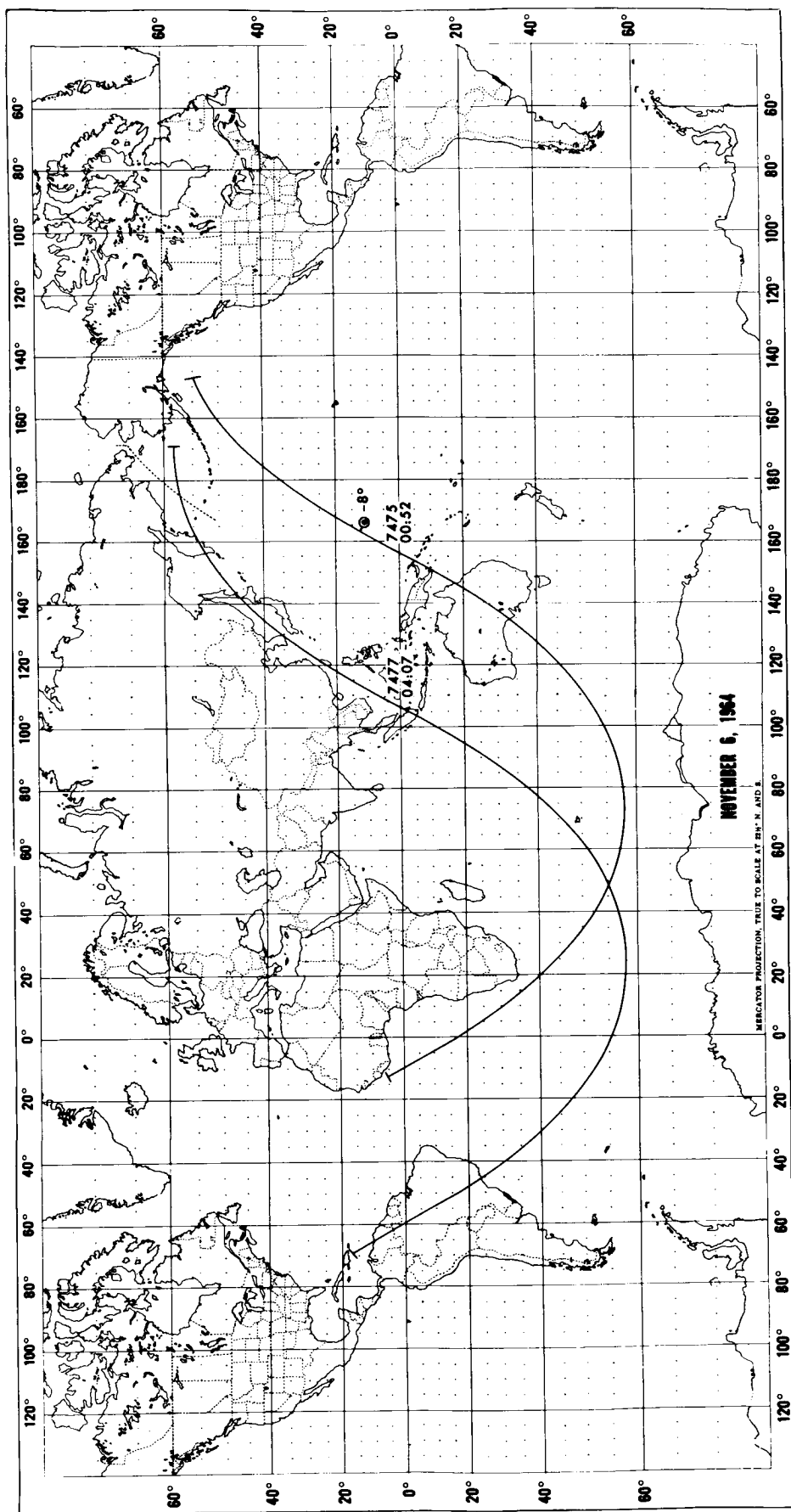
MAGNETIC DECLINATION TRUE TO SCALE AT 50° N AND S

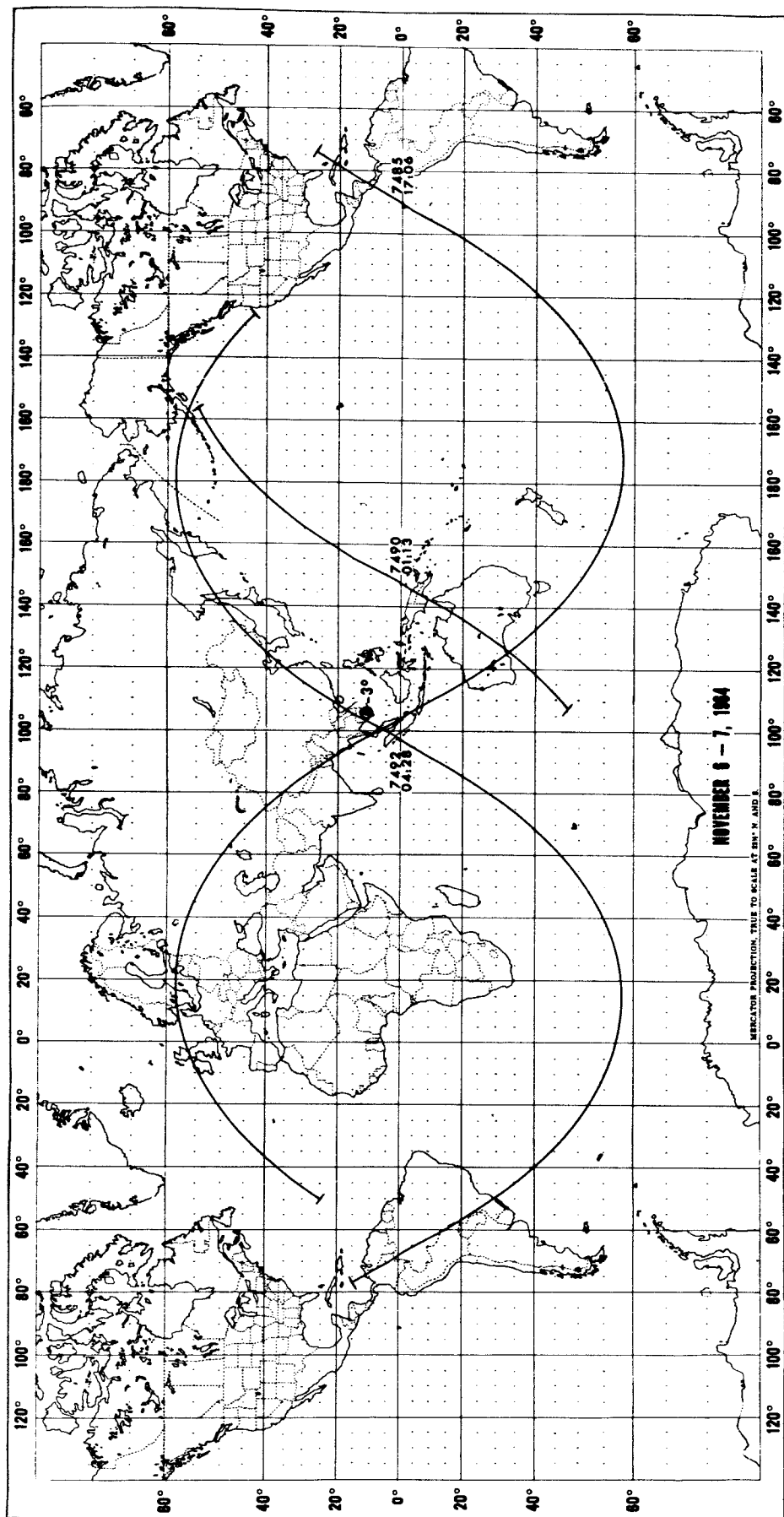


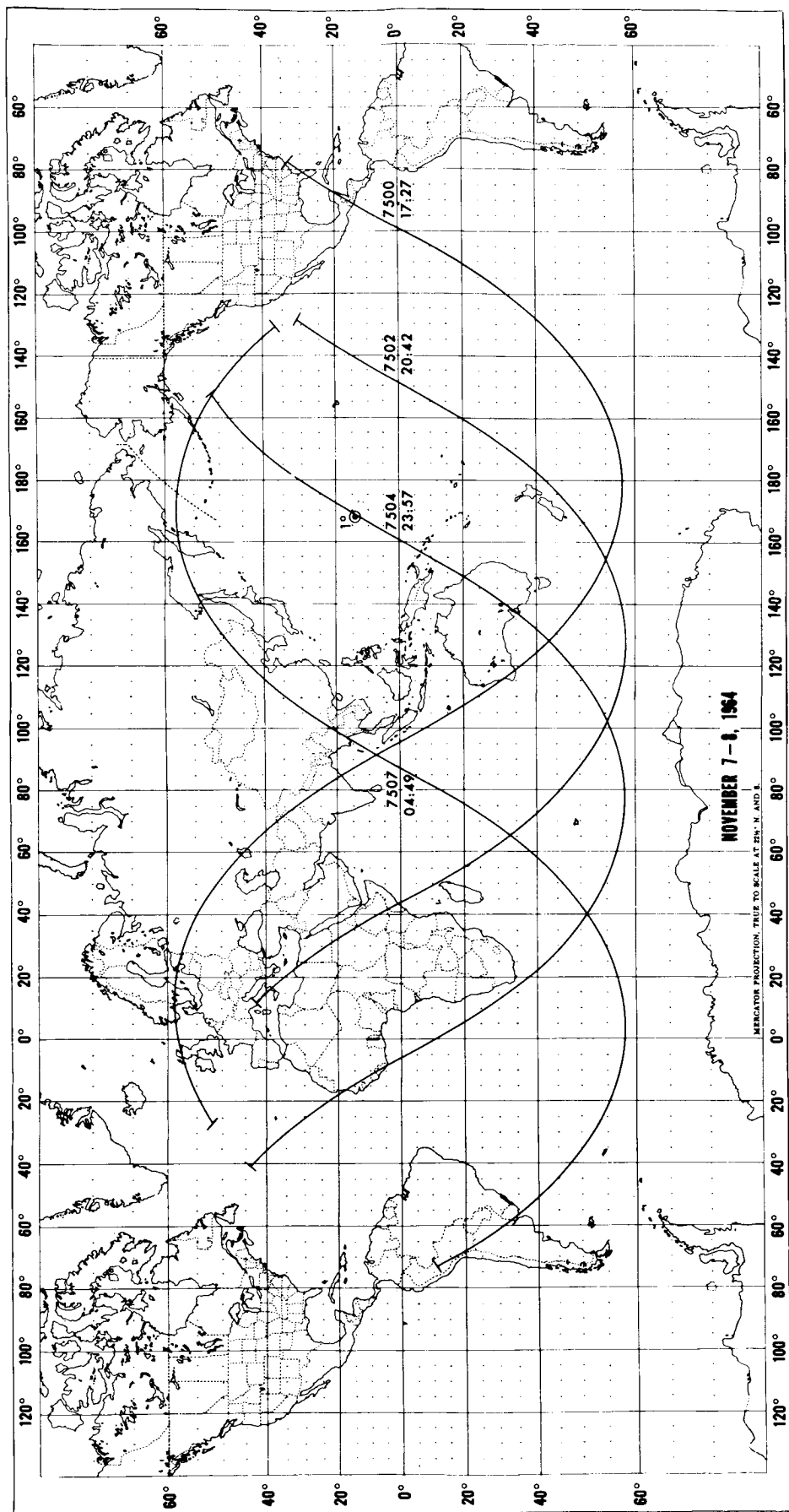


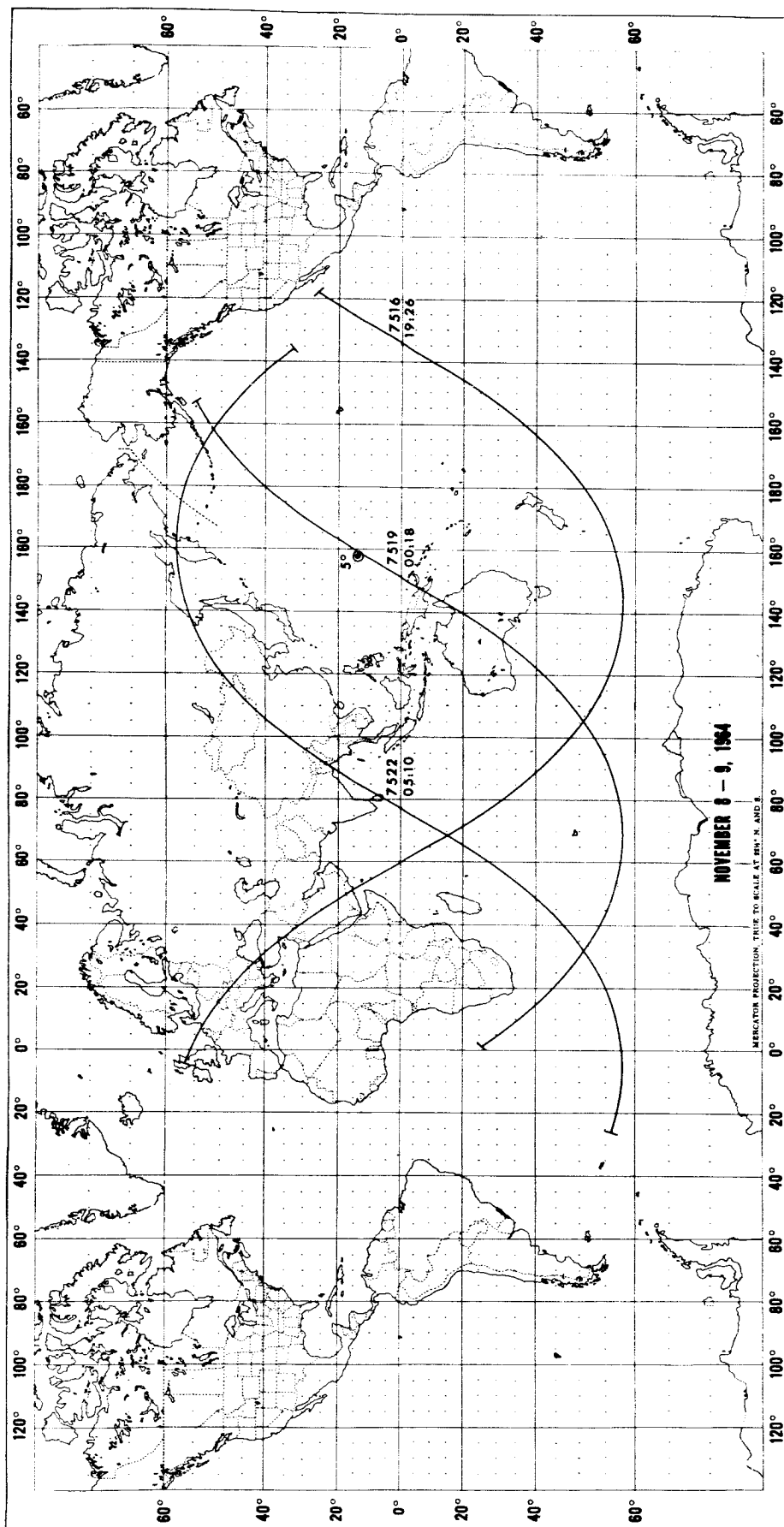


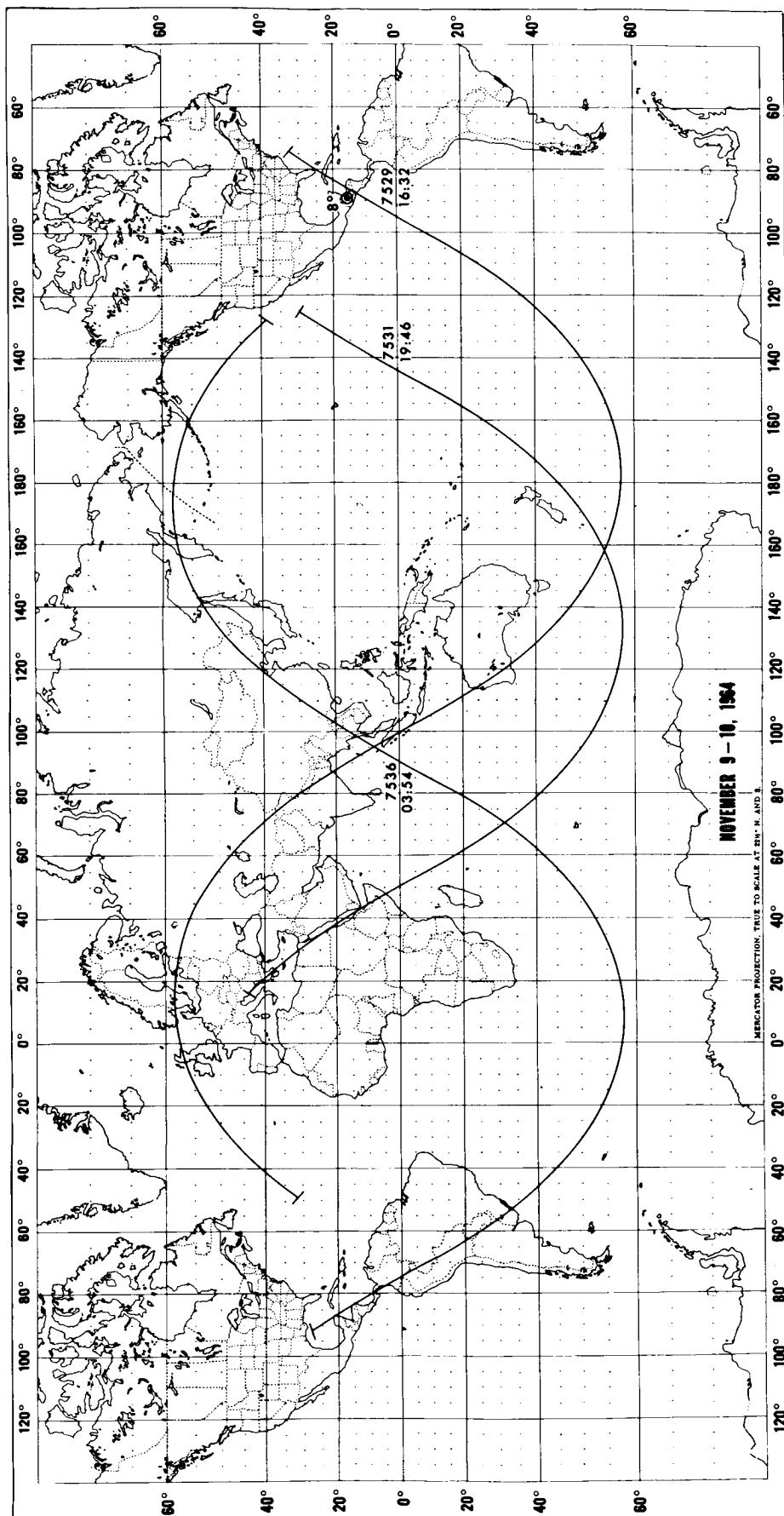


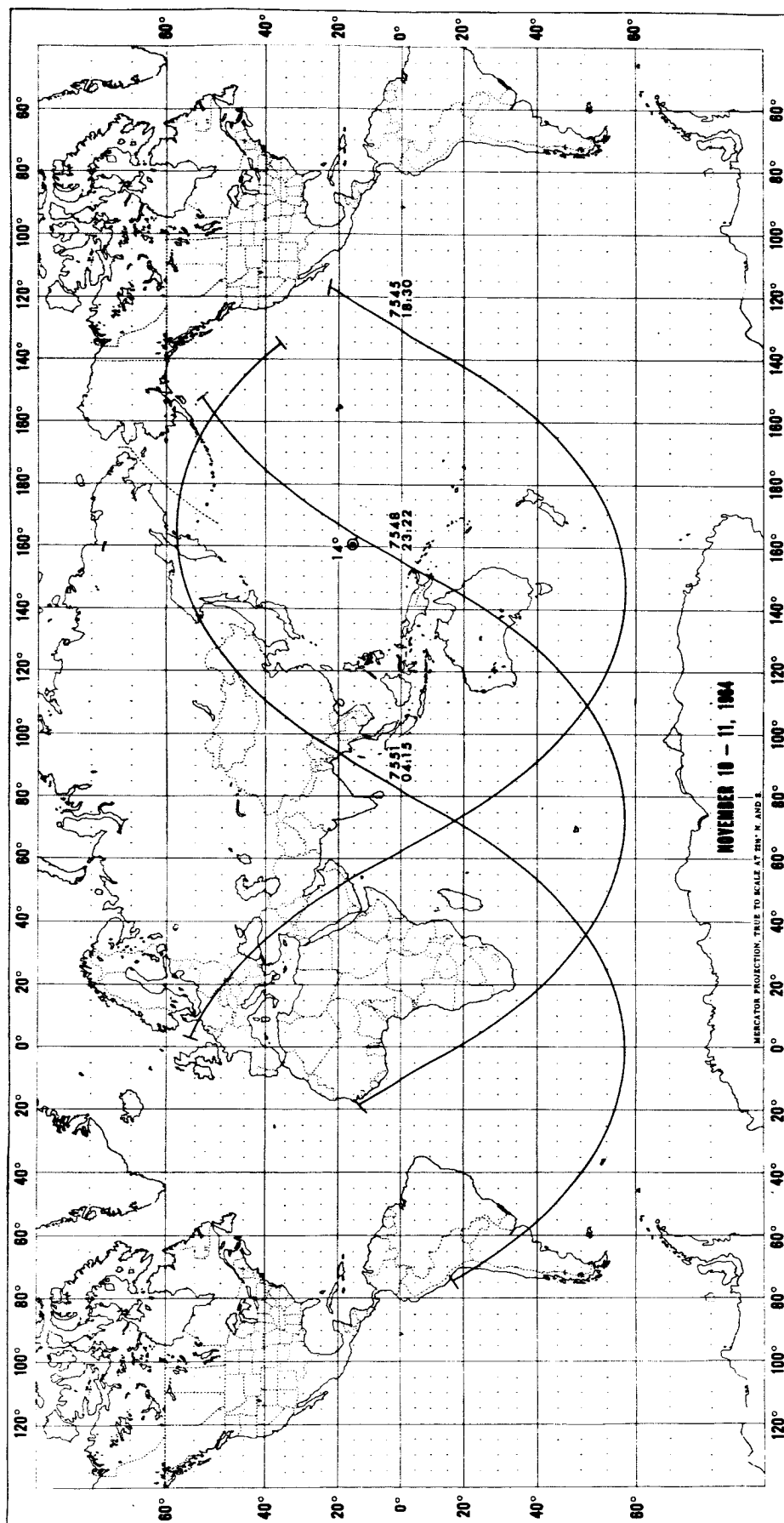


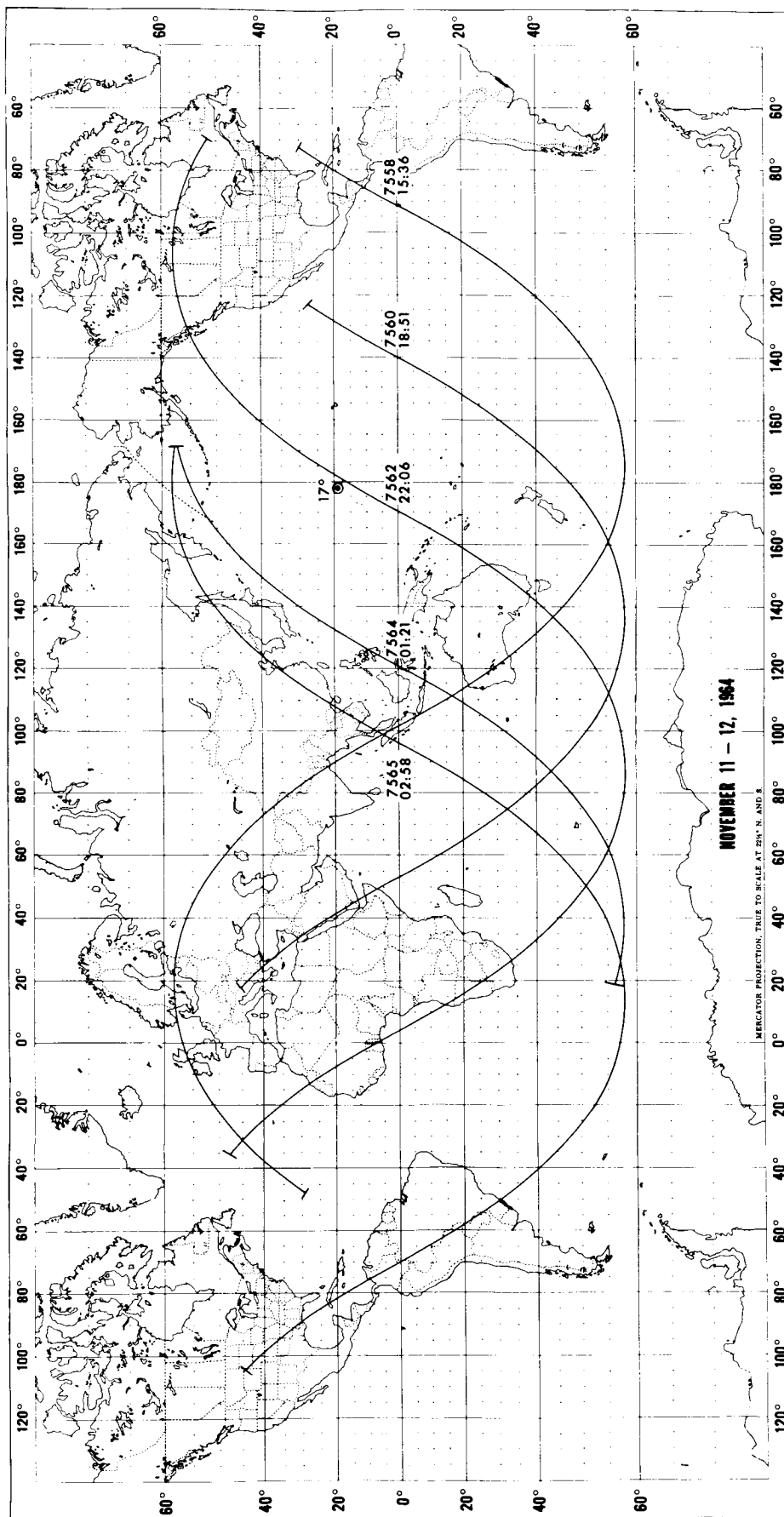


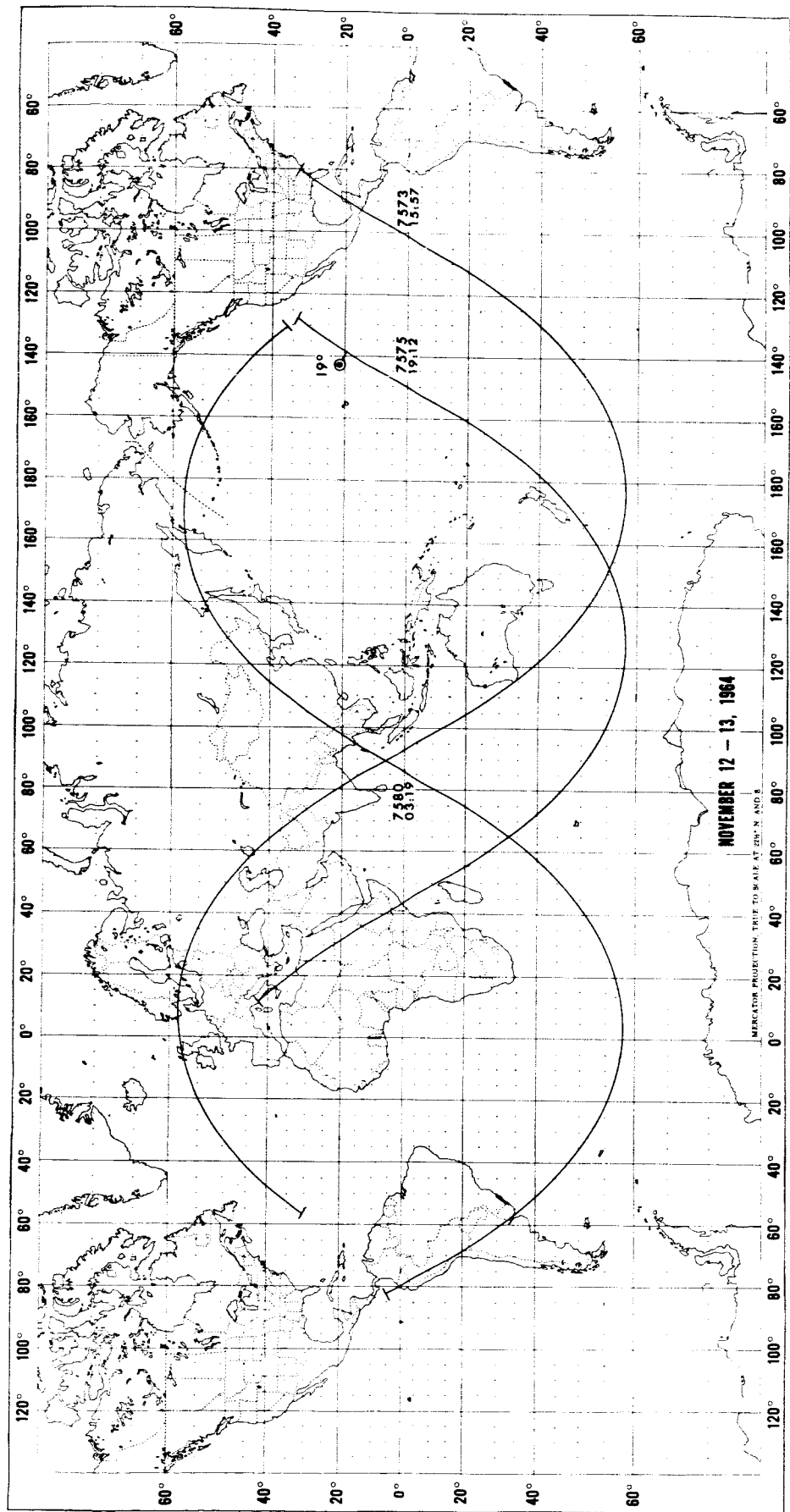


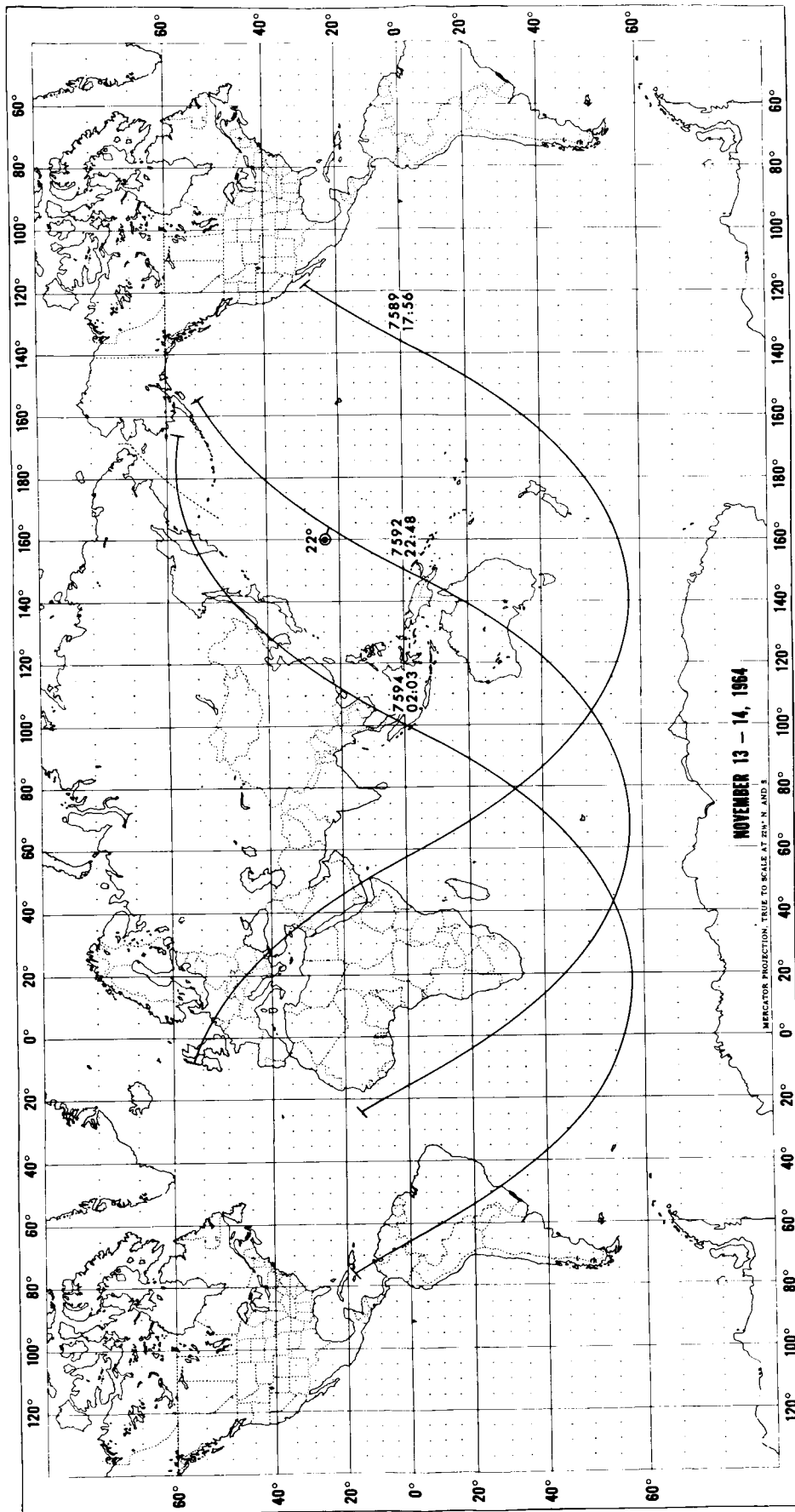


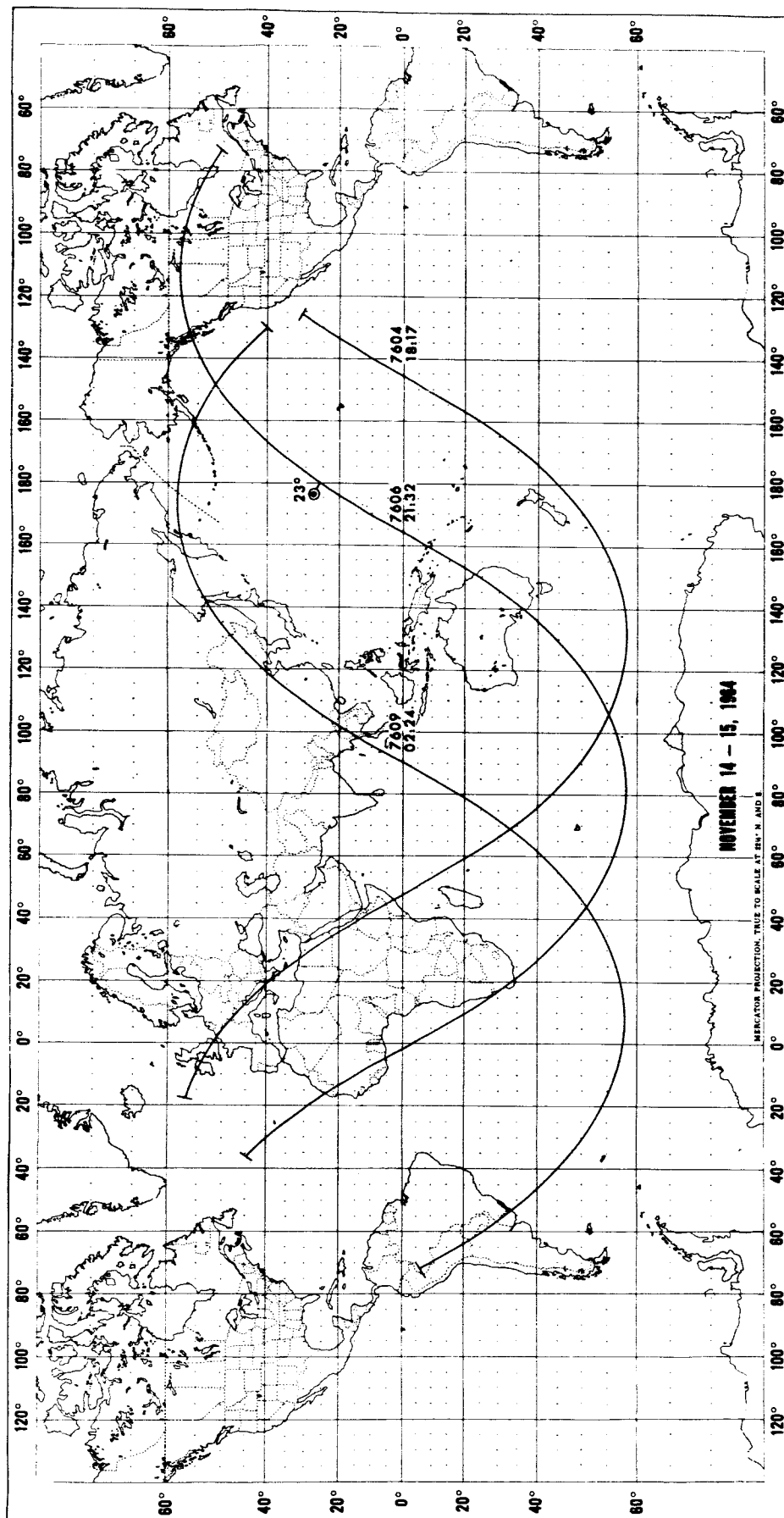


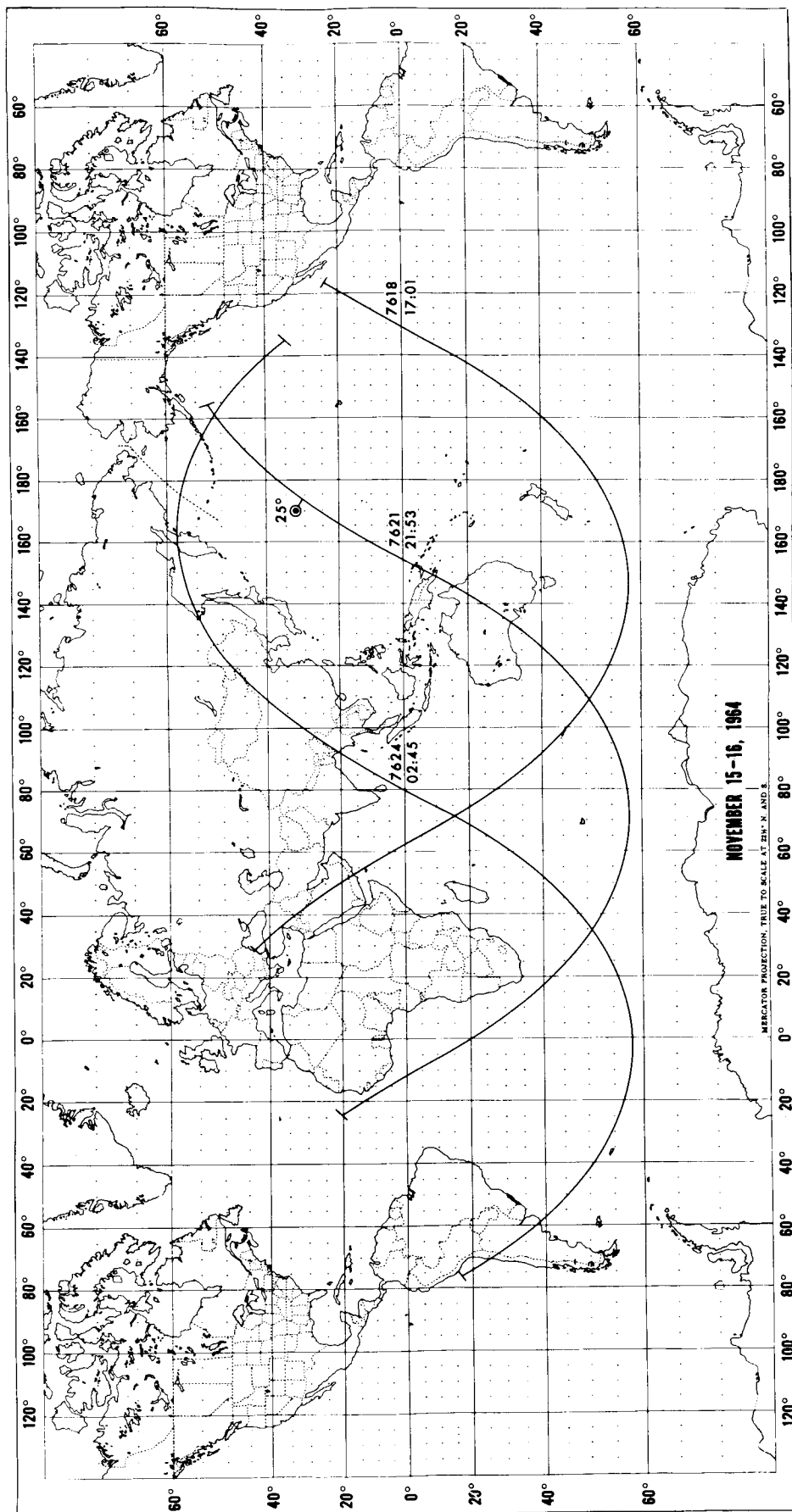


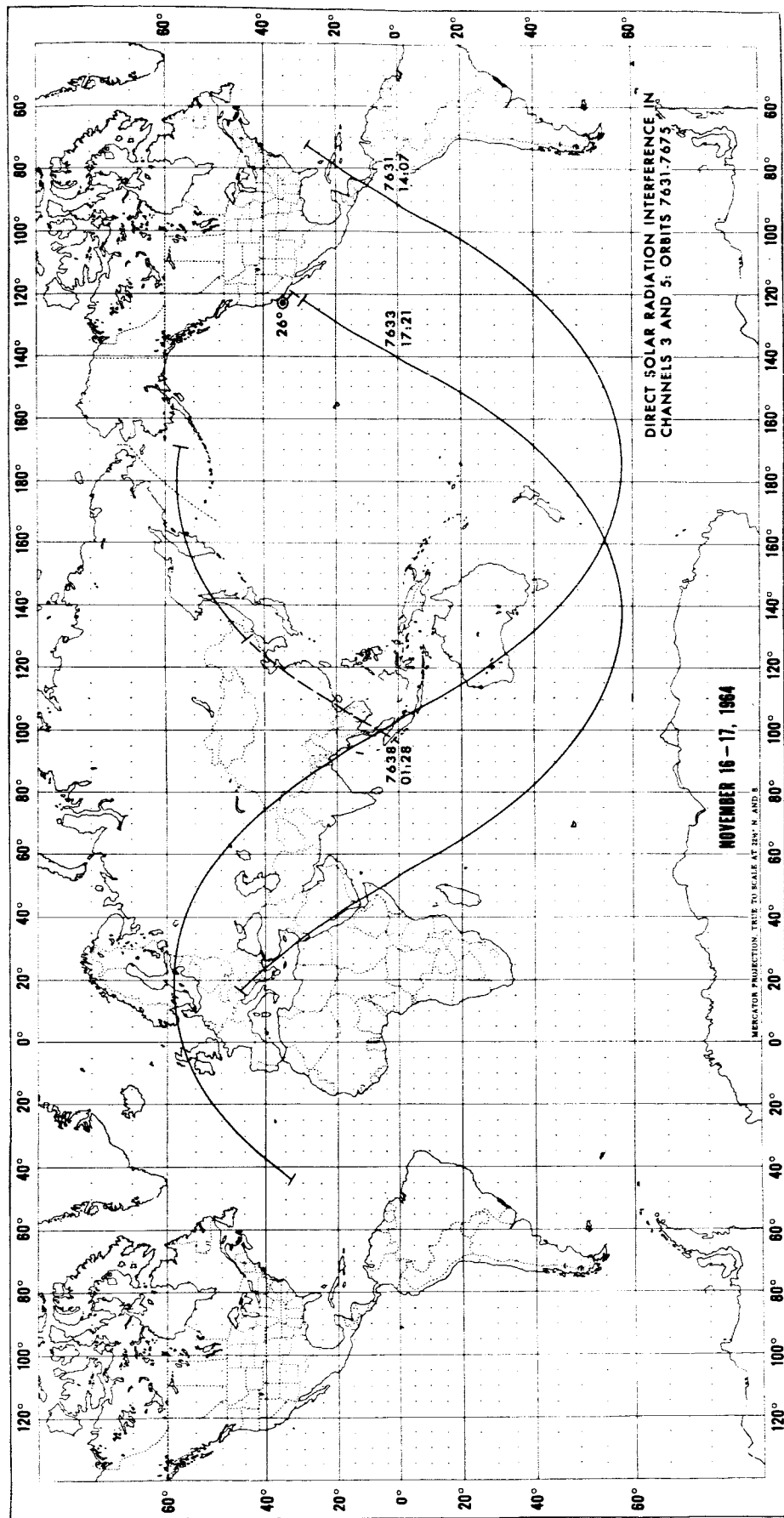


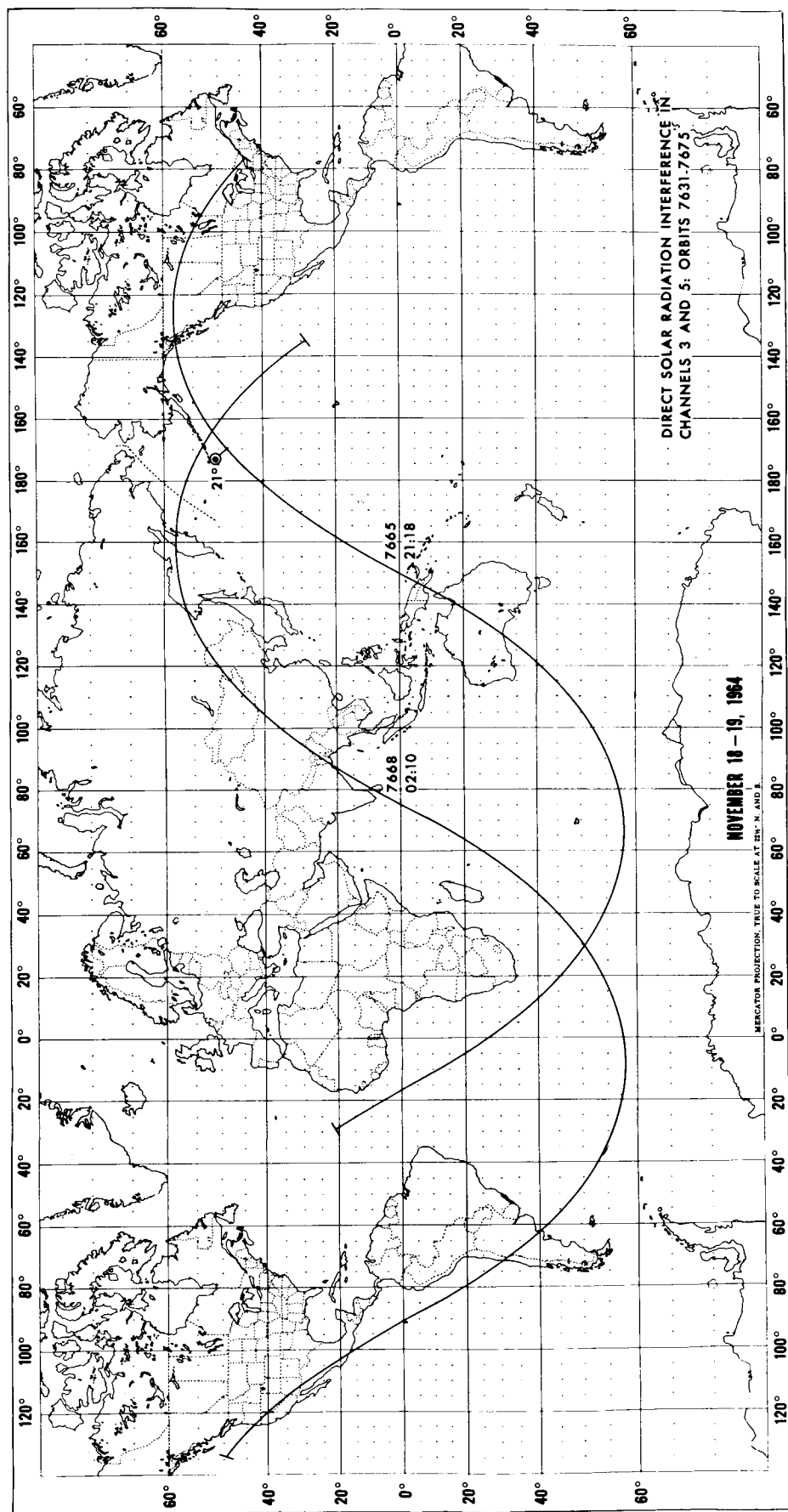


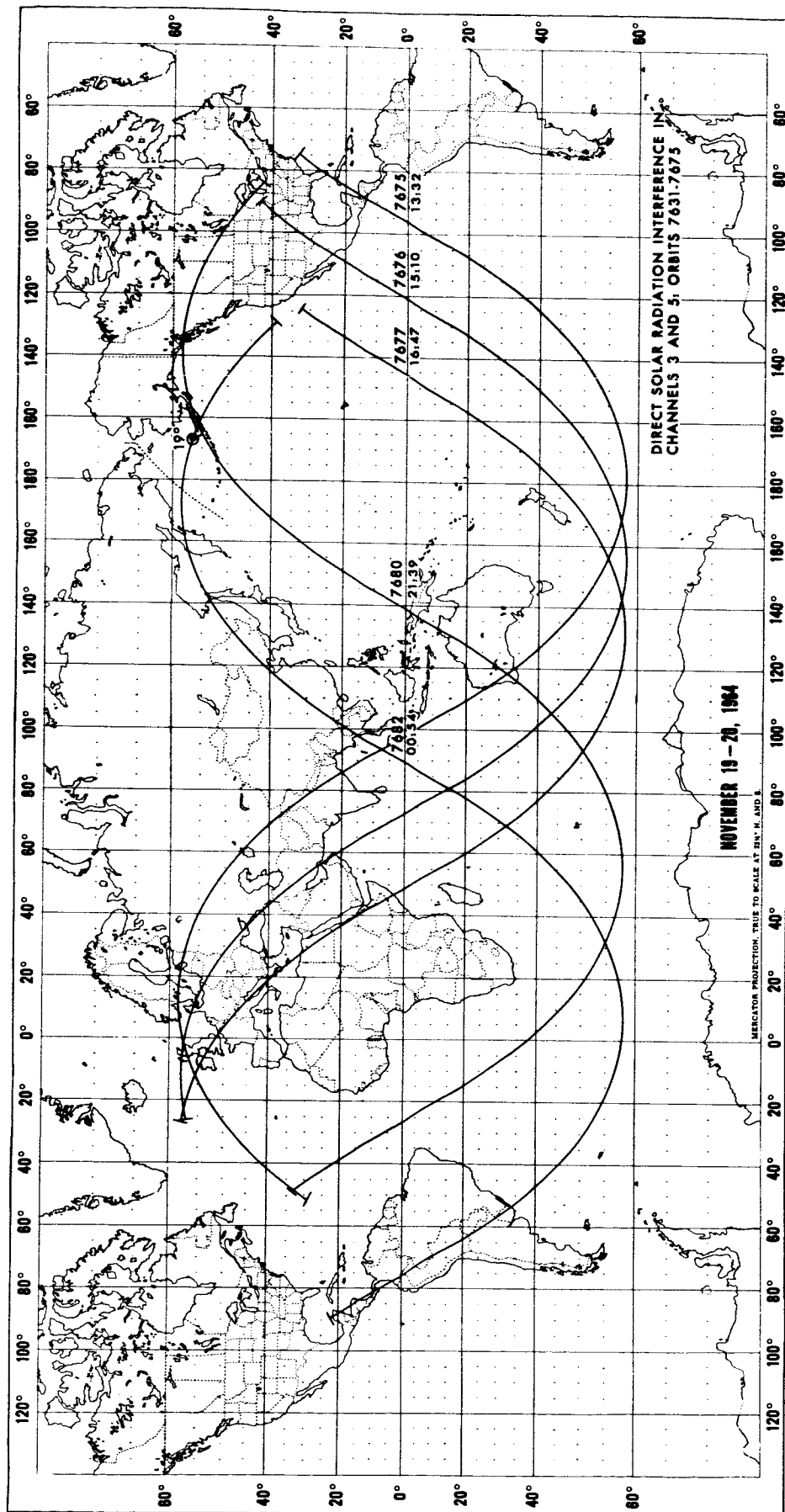


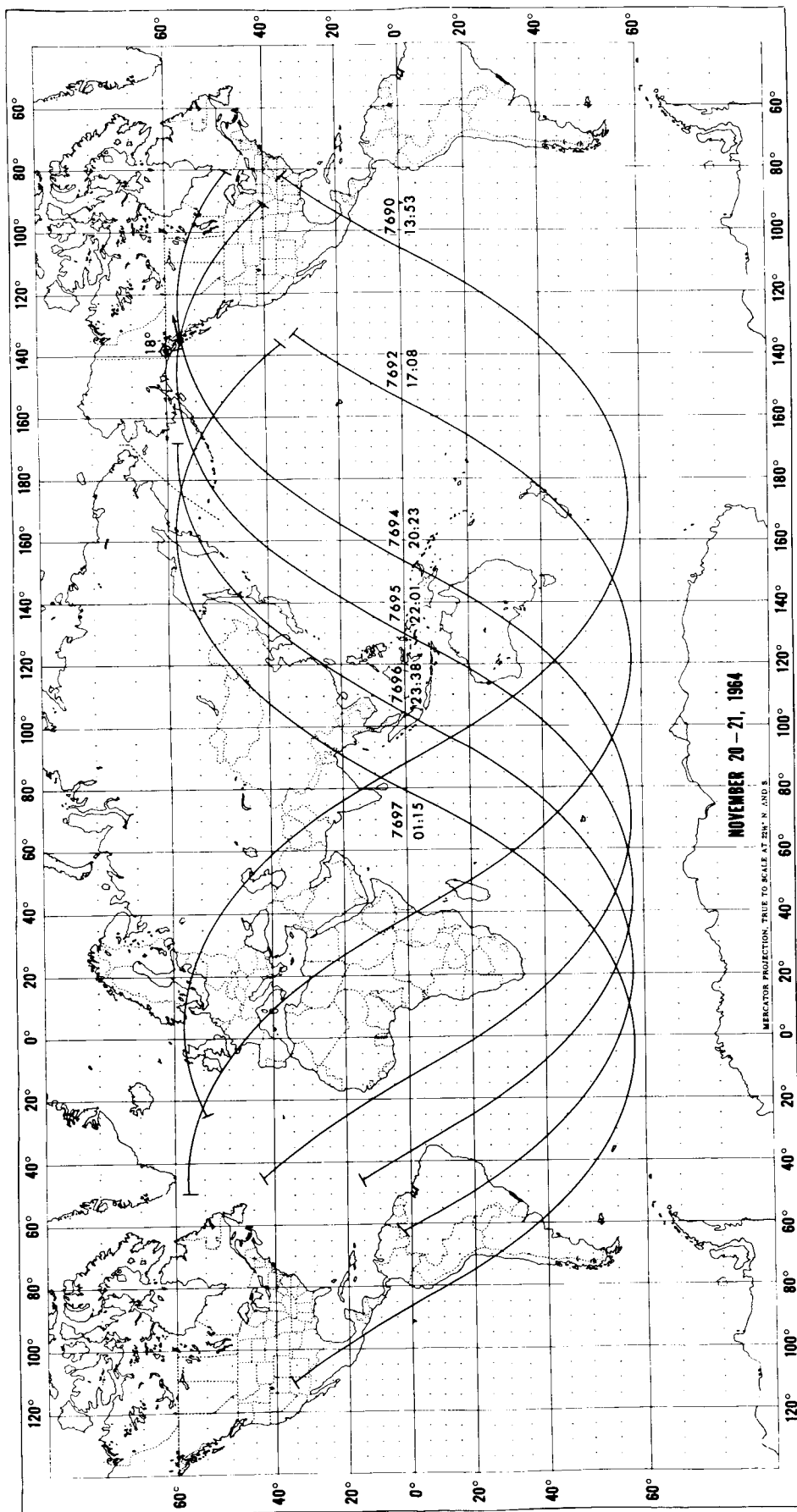


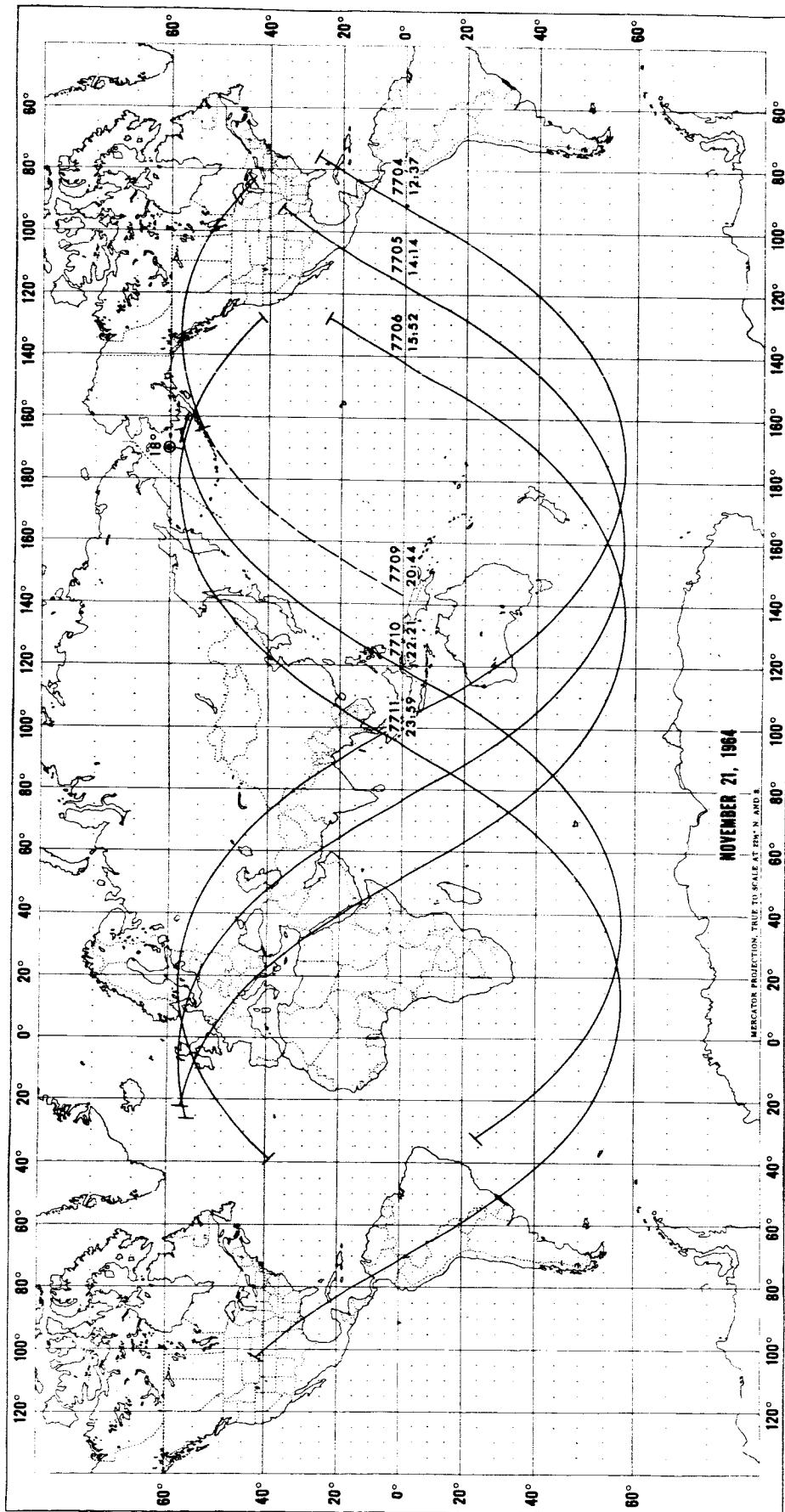


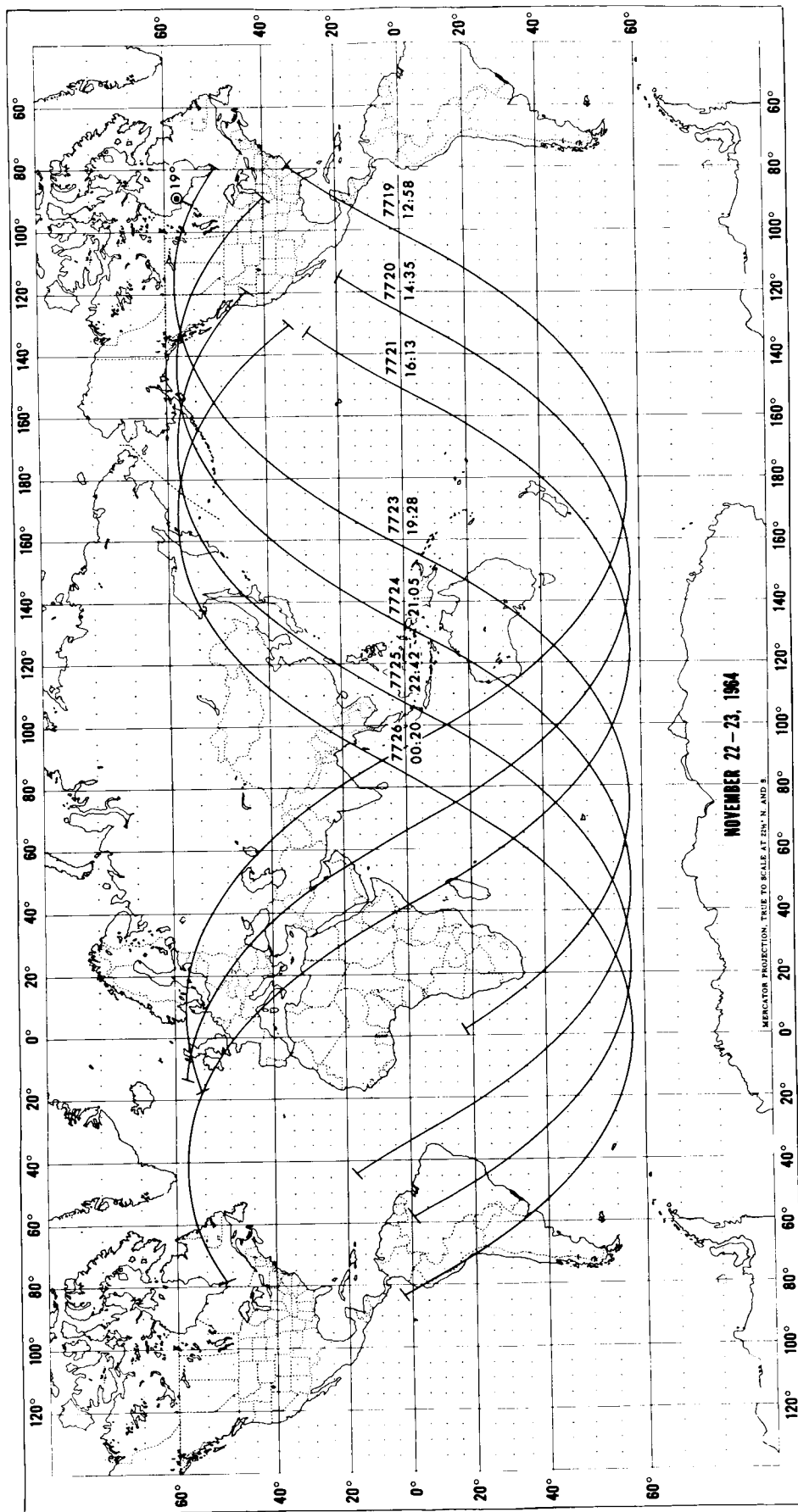






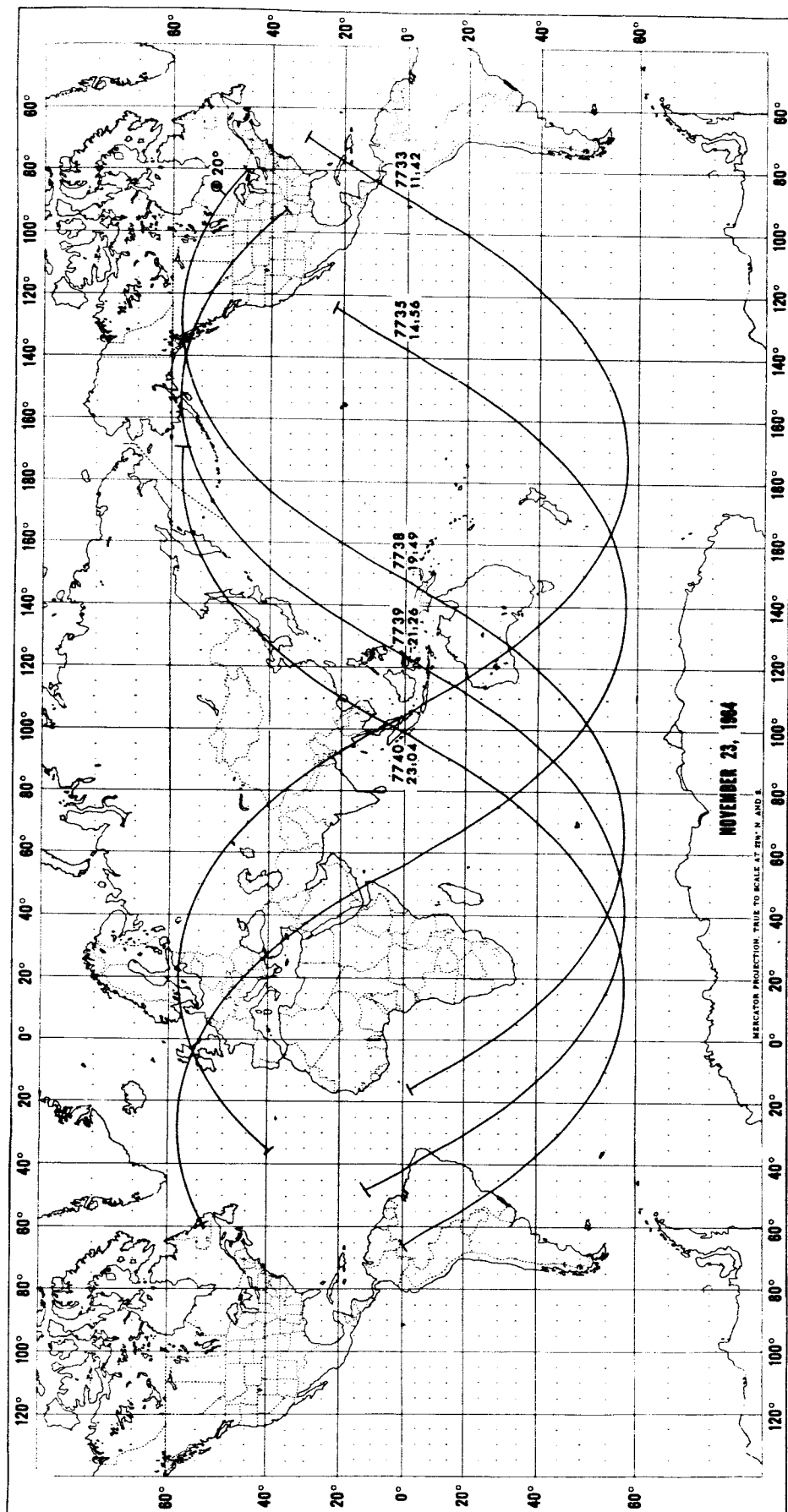


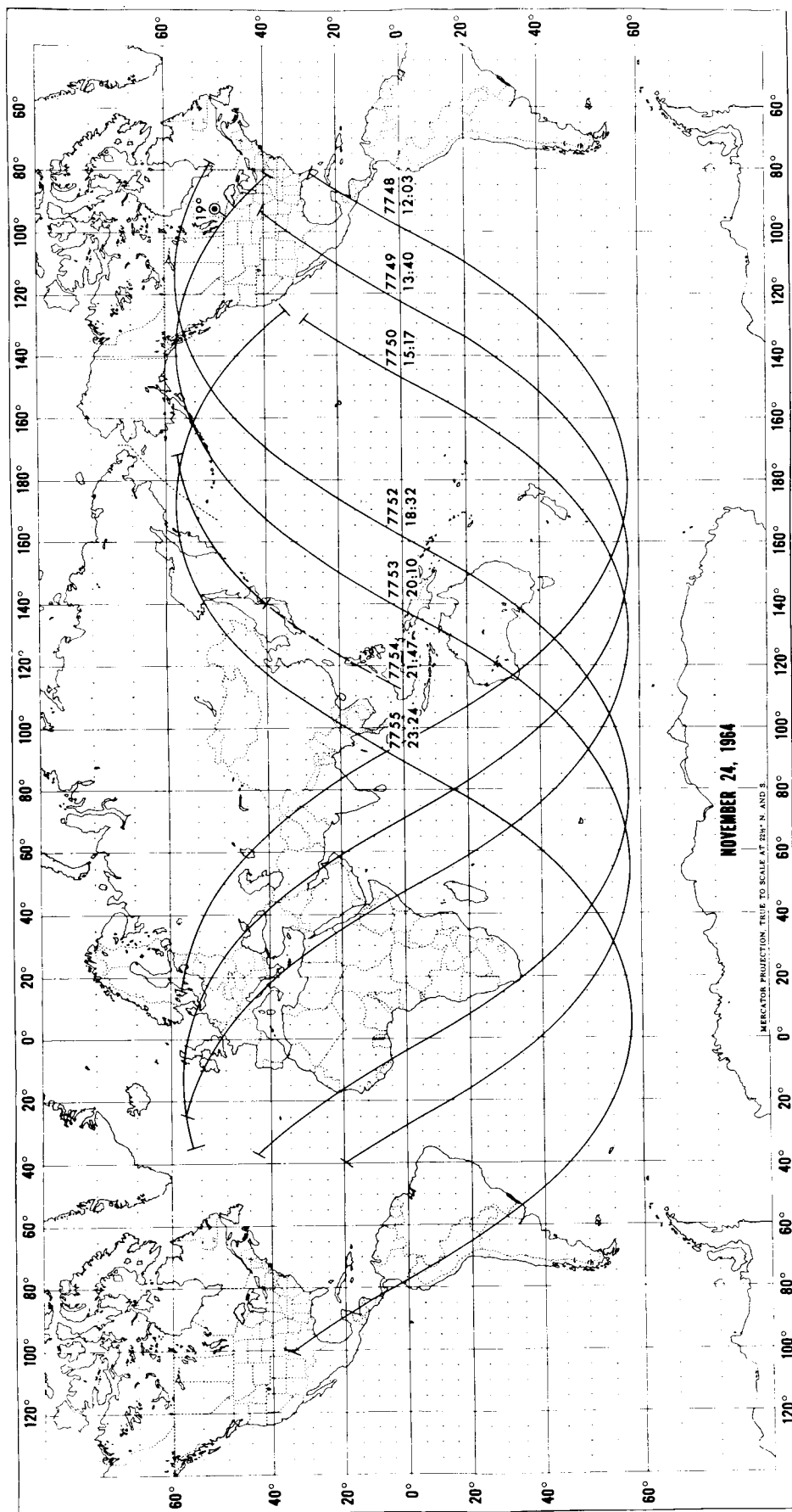




NOVEMBER 22-23, 1964

MERCATOR PROJECTION, TRUE TO SCALE AT 25° N AND S





NOVEMBER 24, 1964

MERCATOR PROJECTION TRUE TO SCALE AT 25°N AND S

